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Laboratories of the Barnes Hospital

PAUL O. HAGEMAN, M.D.[1]

For many years laboratory service in Barnes Hospital has been the responsibility of Washington University School of Medicine, each department maintaining laboratories in its own field. As a result, the Department of Medicine operated the Bacteriology, Serology, Blood Chemistry, Basal Metabolism, Electrocardiography and Clinical Microscopy Laboratories. A similar set of laboratories was maintained by the Department of Obstetrics and Gynecology to care for the patients in the Maternity Hospital. Likewise, Surgical Pathology Laboratories were maintained by the Departments of Surgery, Oto-Laryngology, Ophthalmology and Neuro-surgery. This rather complex set-up gave satisfactory service but naturally necessitated great duplication of personnel and equipment. Quite naturally, reduplication served to make the expense of maintenance of laboratory service high. With the passage of time, the rendering of laboratory service became more and more of a burden on the various departments of the Medical School. The University's financial condition was such that the loss of money in the operation of laboratories forced economy in research and other ventures.

At the suggestion of men of experience in our own institutions and others, a plan was formulated to have the responsibility of laboratory care transferred to Barnes Hospital without changing the technical or professional personnel. This proposal was to include centralization of the laboratories in Barnes Hospital, thus eliminating unnecessary reduplication. After details of the plan had been approved by all concerned, Barnes Hospital assumed fiscal responsibility on July 1, 1941, and began plans for construction of a centralized laboratory. With but few exceptions, the plan has been carried out completely and operation in the new laboratories began in May, 1942. (See plan.)

The laboratories are now located on the second floor of the service build-

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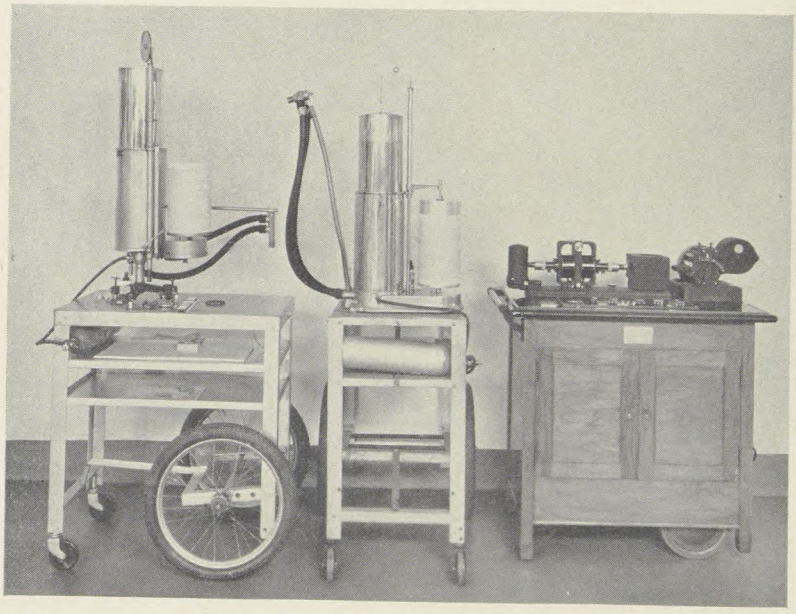
ing, being connected to the hospital via a corridor over the new ambulance entrance. At present, all of the laboratory work for Barnes Hospital and most of the work of Maternity Hospital and the Washington University Clinics is being done in the new quarters. Centralization has served to make for a unified and more efficient system, the advantages of which are now apparent.

Records for all the laboratories are kept in the office in one file so that all reports on a single patient are filed together. Information is thus more



Electrocardiograph and apparatus for determination of basal metabolism mounted on wheels so that the observations may be made at the bedside.

readily available. Telephone inquiries can be handled by a single secretary thus sparing the technicians from interruptions.

Collection of specimens and requisitions is done by a messenger who makes hourly rounds to each division of the hospital between 7:00 A. M. and 4:00 P. M. Less frequent collections are made on week-ends, holidays and in the evening. This move has saved the time of interns, nurses and orderlies who formerly spent considerable time acting as messengers.

Reports are sent to the patient's chart three to four times daily. Results are copied into the record by the secretary and the original report is attached to the chart to call attention to the recent entry. This service has speeded up the entry of data into the record appreciably.

Laboratory charges for the patient vary in different parts of the hospital. The ward patient pays a $3.00 laboratory fee which covers all laboratory work regardless of the length of the admission. Semi-private patients pay a $5.00 fee which includes one of each test performed by all the laboratories. Repeat tests are charged per test on a cost basis, the average charge being $0.50 to $1.00. A ceiling price of $10.00 has been placed on laboratory service for all semi-private patients so that regardless of the amount of work or the length of the patient's stay, the laboratory expense never exceeds twice the original fee. A similar plan applies to private patients who pay a $7.50 fee originally, plus the same schedule of charges for repeated tests, with a ceiling price of $15.00.

General Secretarial Offices and Office of the Director

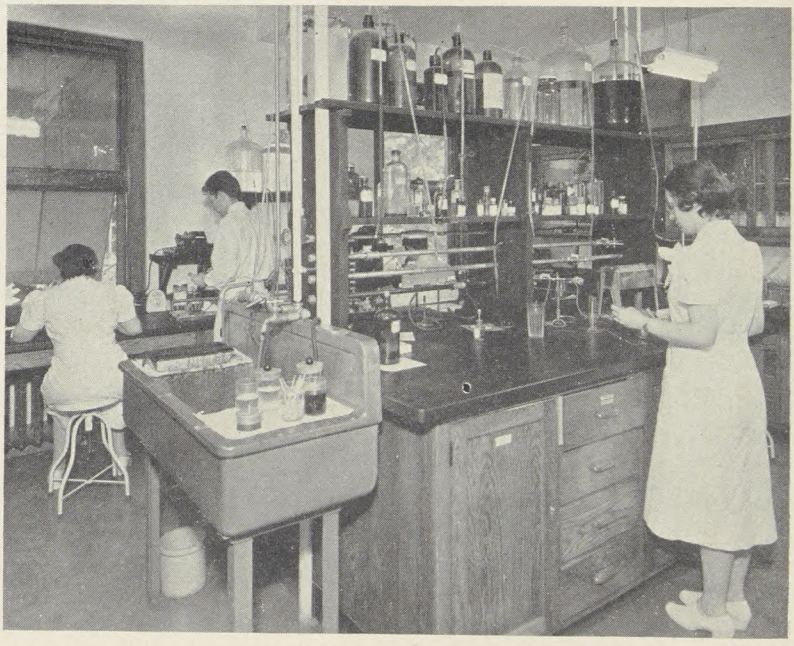
This scheme has worked admirably and seems to be reasonable enough not to impose hardship on anyone. In special instances, where patients are frequently readmitted and no admission laboratory work-up is done, the laboratory fee is omitted and tests can be ordered at the "repeat" rate.

Ambulatory patients obtain laboratory service through the "Doctors' Office" as ordered by a staff physician. Charges for this type of service are somewhat higher, but still reasonable. For example, Urinalysis—$1.00, Kahn—$1.00, Complete Blood Count—$1.50.

Clinical Microscopy laboratory is under the direction of Dr. Carl V. Moore assisted by Miss Eugenia Balz. In this department blood counts and urinalyses on all Private and Semi-private patients are performed. In addition, special procedures such as icteric indices, bromsulfalein determinations, sputa, stools, gastric analyses, etc. are performed for the entire hospital. Through the past 5 or 6 years, since this laboratory was organ-

ized, the scope of its work has increased tremendously. During this period, its complement of technicians has been increased from two to five. The increasing burden carried by these technicians has served to free the intern from routine laboratory procedures. By having thoroughly competent workers, the best of equipment, and adequate supervision, the standard of work has been of the highest.

Blood Chemistry laboratory is directed by Dr. Harold Bulger with the technical assistance of Mrs. Helen Hilliker. In this field rapid advances



Clinical Microscopy. Economy of space is a feature of this laboratory. Five persons can work simultaneously without crowding.

have been made in recent years, and every effort has been made to adopt new tests as soon as procedures were standardized.

Electrocardiography laboratory is managed by Dr. Drew Luten and Dr. Edward Massie. All records are made at the bedside using two portable Hindle electrocardiograph machines to eliminate unnecessary transportation of patients. Tracings made one day are developed, mounted, and interpreted by the next.

Basal Metabolism laboratory is supervised by Dr. Harold A. Bulger. After mounting Benedict-Roth machines on carts with pneumatic tires, it was possible to do all basals at the bedside. Technicians report at 6:30

A. M. and hence patients are less disturbed by waiting and transportation before the test. With these arrangements, metabolism tests are usually completed by 9:00 A. M., and hence do not interfere with other procedures such as X-rays, gastric analyses, etc.

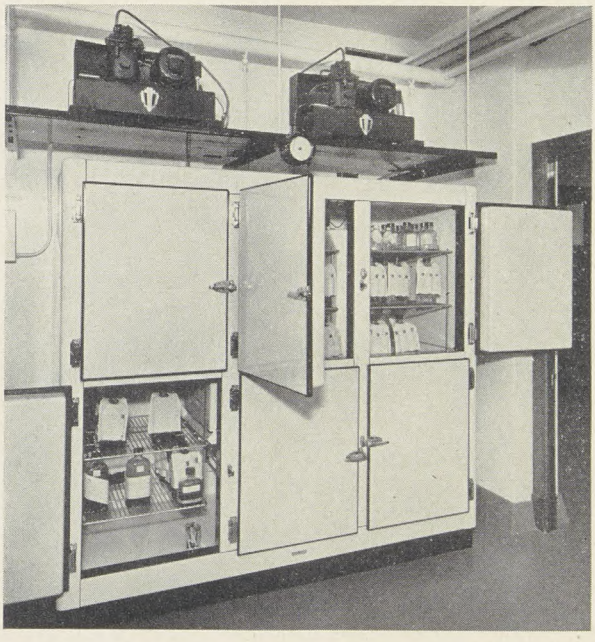
Bacteriology and Serology laboratories are under the professional supervision of Dr. Paul O. Hageman. Throughout the work of this department critical judgment is constantly exercised. Continual analysis of present methods and trials of newer concepts have served to make the work doubly

Bacteriology Laboratory. Simplicity of design and north light feature this laboratory. The furniture is custom built, and the work layout is designed to go forward as continuously as possible.

interesting. Considerable stimulus has been felt since Dr. Barry Wood's arrival, because of his keen interest in the field of bacteriology and serology.

Surgical Pathology laboratory now includes the General Surgery and Obstetrics and Gynecology laboratories. Dr. Nathan Womack and Dr. Heinz Haffner direct the general surgical work, while Dr. John Hobbs controls the material in his field. With this move, two separate laboratories have been combined and it is hoped that the tissue work of the Ophthalmology and Oto-Laryngology Departments may soon be included. By using Autotechnicons, tissues are fixed, stained and read in 24 to 30 hours.

A *Blood Bank* has been organized this year under the direction of Dr. Paul O. Hageman in cooperation with the Transfusion Committee of Barnes Hospital. Physical equipment and space for handling donors and doing the technical procedures were included in the plans for the new laboratory. A large, six compartment Hussman icebox with dual compressors and a constant temperature recording thermometer was provided to assure satisfactory storage space. Separation of sizeable amounts of undilated plasma



Six-compartment refrigerator which has two thermostratically controlled, motor-driven compresses and a recording thermometer. Capacity is 400 units of blood or plasma.

was made feasible by the acquisition of a large centrifuge capable of spinning four pints of blood at one time.

For general use blood is stored in a glucose citrate diluting fluid which preserves red blood cells satisfactorily for 21 days. Aspiration of diluted plasma is done at that time, being pooled, cultured, preserved and then bottled for dispensing. A more detailed account of the Bank's operation will not be included in this discussion; a more complete summary of technique and results may be forthcoming in the future. Suffice it to say, the change in transfusion service has been well received and is truly satisfactory. Such a plan saves an endless amount of interns' and patients' time and pro-

vides for emergencies at all times. It is only fair to state that many technical problems arise in the operation of a Blood Bank necessitating constant supervision, change and adjustment, but their number seems to decrease with added experience.

Since July 1, 1942, the *medical internship* has included one month in the laboratory. During this period the intern has no other responsibilities and devotes full time to laboratory procedures as applied to the medical ward service. This has included Bacteriology, Serology, Blood Chemistry, Blood Bank and other special procedures.

A school for *Medical Technology* has been organized by Barnes Hospital in cooperation with the Medical School. The school has been planned according to specifications of the American Society of Clinical Pathologists and has been approved by the American Medical Association. The course lasts one year and includes classroom and laboratory training in each department. Tuition is $50.00 for the entire course. Applicants are required to have at least two years of college including General Chemistry, Quantitative Chemistry and Biology.

Throughout this discussion of the Laboratories of the Barnes Hospital, speed and efficiency have been repeatedly emphasized although they have not been gained at the expense of accuracy and precision. By increased efficiency, time of physicians, interns, nurses and patients has been saved. Any contribution which shortens a patient's stay in the hospital increases the number of patients that can be served: a factor of great importance at a time when our institutions are overcrowded.

Much of the credit for these changes and improvements is due to Dr. Frank R. Bradley and the Trustees of Barnes Hospital who have been most generous and cooperative.

How's Your Medical Orthoëpy?

JEAN V. COOKE, M.D.[1]

An orthoëpist (highbrow for expert in pronunciation) would not hesitate in speaking any of the following 15 words and neither would you since you probably use most of them frequently. But would you both say them the same way? Try checking the correct form of pronunciation in the proper column of phonetic respellings below in which the accented syllable is capitalized. If you get ten correct you are really very good; twelve is excellent and more is really orthoëpical.

The answers are on page 97.

1. menarche	a. men ARCH	b. men ARK	c. me NAR kah
2. orthopnea	a. or THOP ne a	b. or thop NEE a	c. OR thop ne a
3. roseola	a. ro ze OH lah	b. RO ze oh lah	c. ro ZEE oh lah
4. trichomonas	a. tri KOM o nas	b. tri ko MO nas	c. TRIK o mo nas
5. esophageal	a. e SOF a je al	b. e sof a JEE al	c. e so FAJ e al
6. salicylate	a. SAL i sil ate	b. sa LIS i late	c. sal i SIL ate
7. vertebral	a. ver TEE bral	b. VER te bral	c. ver TIB ral
8. abdomen	a. AB do men	b. ab DO men	c. ab DOM en
9. sequela	a. SEE que lah	b. se QUEE lah	c. se QUELL ah
10. flaccid	a. FLAY sid	b. FLAS sid	c. FLAK sid
11. sulfonamide	a. sul fone AM id	b. SUL fone am id	c. sul FONE am id
12. parenchymatous	a. par en KY ma tous	b. par en KEM a tous	c. par en KEE ma tous
13. expiratory	a. EX pi ra to ri	b. ex PIE ra to ri	c. ex PEER a to ri
14. quintuplets	a. quin TOO plets	b. quin TUP plets	c. QUIN tu plets
15. hyperpnea	a. hy perp NEE a	b. hy PERP ne a	c. HY perp ne a

[1] Professor of Pediatrics.

Medical Orthoëpy

JEAN V. COOKE, M.D.[1]

There are certain words commonly used by physicians that are habitually mispronounced. For those who may not realize that they may be forming the habit of using colloquial and unconventional pronunciations, the following list of words in more or less common use has been compiled. It includes most of those which are frequently mispronounced.

The grouping is merely for convenience, and the pronunciation is indicated by phonetic respelling with the accented syllable in capitals. In almost all cases the correct pronunciation listed is the *only one authorized in standard dictionaries.* In a few instances some authority allows the use of the form listed here as "incorrect" but this pronunciation is considered much less desirable. These are indicated by an asterisk (*).

	Say	Not
Accent the FIRST Syllable		
Autopsy	AW-top-si	aw-TOP-si
Cerebrum	SER-e-brum	se-REE-brum
Cerebral	SER-e-bral	se-REE-bral
Cavernous	KAV-er-nus	ka-VER-nus
Necropsy	NEK-rop-si	ne-KROP-si
Paresis	PAR-e-sis	pa-REE-sis*
Quintuplets	QUIN-too-plets	quin-TOO-plets
Quadruplets	QUAD-roo-plets	quad-ROO-plets
Vertebral	VER-te-bral	ver-TEE bral
Intervertebral and Paravertebral	in-ter-VER-te-bral par-a-VER-te-bral	in-ter-ver-TEE-bral par-a-ver-TEE-bral
Accent the LAST Syllable		
Adult	a-DULT	AD-ult*
Dilate and (Dilated	di-LATE di-LAY-ted	DIE-late DIE-lay-ted)
Grimace	gri-MAYCE	GRIM-ace
Research	re-SEARCH	REE-search*
Accent the Syllable *before* the Last (Penult)		
Abdomen	ab-DO-men	AB-do-men*
Duodenum	du-o-DEE-num	du-ODD-e-num
Ureter	you-REE-ter	YOUR-e-ter
Plethoric	ple-THOR-ik	PLETH-o-rik

[1] Professor of Pediatrics.

These are accented like a-RE-o-la, *not* like pi-a-NO-la

	Say	Not
Roseola	ro-ZEE-o-lah	ro-ze-OH-lah
Rubeola	ru-BEE-o-lah	ru-be-OH-lah* (Dorland only)
Variola	va-RYE-o-lah	va-ri-OH-lah

Put Three Syllables in

	Say	Not
Caffein	KAF-fe-in	KAF-feen
Menarche	me-NAR-kah	men-ARCH
Rabies	RAY-be-ez	RAY-bees* RAB-ees*
Scabies	SKAY-be-ez	SKAY-bees
Syndrome	SIN-dro-me	SIN-drome* (Dorland Gould)

Keep All the Syllables in

	Say	Not
Laboratory	LAB-o-ra-to-ri	LAB-ra-to-ri
Temperature	TEM-pe-ra-ture	TEM-per-ture

Be Careful How You Sound Your "A" When You Say

	Say	Not
Apparatus	ap-pa-RAY-tus	ap-pa-RAT-us*
Data	DAY-ta	DAT-ta*
Digitalis	di-gi-TAY-lis	dig-i-TAL-is
Foramen	fo-RAY-min	fo-RAH-min
Ramus	RAY-mus	RAH-mus
Raphe	RAY-fee	RAH-fee
Status	STAY-tus	STAH-tus

Be Sure to Sound Your "F" When You Say

	Say	Not
Aphthous	AFF-thus	AP-thus
Diphtheria	*diff*-THE-ri-a	*dip*-THE-ri-a*
Ophthalmic	off-THAL-mik	op-THAL-mik*

Watch the "E" in

	Say	Not
Severity	se-VER-i-ti	se-VEER-i-ti
Sequela	se-QWEE-la	se-QUEL-a
Centrifuge	SEN-tri-fuj	SAHN-tri-fuj
Centigram	SEN-ti-gram	SAHN-ti-gram
Centimeter	SEN-ti-me-ter	SAHN-ti-me-ter*
Centigrade	SEN-ti-grade	SAHN-ti-grade

And the "U" in

	Say	Not
Buccal	BUK-al	BOO-kal
Pulmonary	PUL-mo-na-ri	POOL-mo-na-ri
Purulent	PU-ru-lent	POO-ru-lent

"Breathing Words"

	Say	Not
Apnea	ap-NEE-a	AP-ne-a
Dyspnea	disp-NEE-a	DISP-ne-a
Hyperpnea	hy-perp-NEE-a	hy-PERP-ne-a
Orthopnea	or-thop-NEE-a	or-THOP-ne-a
Expiratory	ex-PIE-ra-to-ri	EX-pi-ra-to-ri
Inspiratory	in-SPI-ra-to-ri	IN-spi-ra-to-ri*
Respiratory	re-SPI-ra-to-ri	RES-pi-ra-to-ri*

Chemical Words

	Say	Not
Albumin	al-BYOU-min	AL-bu-min
Chemotherapy	*kem*-o-THER-a-pi	KEE-mo-ther-a-pi
Citrate	SIT-rate	SEYE-trate
Hemoglobin	he-mo-GLO-bin	HEE-mo-glo-bin
Sulfonamides	sul-fone-AM-ides	sul-FONE-am-ides
Sulfapyridine	sul-fa-PEER-a-din	sul-fa-PIE-ri-din
Salicylate	SAL-i-sil-ate	sa-LIS-i-late

Do Not Confuse the Accent of

di-ar-RHE-al	gon-or-RHE-al	leu-kor-RHE-al
o-to-RHE-al	per-i-to-NE-al	per-i-NE-al
rhi-nor-RHE-al	seb-or-RHE-al	

with the following words of similar endings accented on the preceding syllable.

Appendiceal	ap-pen-DIS-e-al	ap-pen-di-SEE-al (Dorland)
Coccygeal	cok-SIJ-e-al	
Epiphyseal	ep-i-FIZ-e-al	
Esophageal	e-so-FAJ-e-al	
Hypophyseal	hy-po-FIZ-e-al	hy-pof-i-SEE-al
Laryngeal	la-RIN-ge-al	
Meningeal	me-NIN-ge-al	
Phalangeal	fa-LAN-ge-al	
Pharyngeal	fa-RIN-ge-al	

Miscellaneous

	Say	Not
Cocci	KOK-seye	COCK-eye
Fungi	FUN-jeye	FUN-guy
Flaccid	FLAK-sid	FLASS-id
Parenchyma	par-EN-ki-ma	par-en-KY-ma
Parenchymatous	par-en-KEM-a-tous	par-en-KY-ma-tous
Poliomyelitis	*pahl*-e-o-mye-LIE-tis	*pohl*-e-o-my-e-LIE-tis
Rationale	rash-un-A-lee	rash-un-NAHL
Trichomonas	tri-KOM-o-nas	tri-ko-MO-nas
Viscid	VIS-id	VIS-kid

Don't Take Your Word for It[1]

JEAN V. COOKE, M.D.[2]

The tendency to carelessness in speech is an old American custom often commented upon. While we are sometimes mildly amused by weird pronunciations of children learning to read, of adults with limited schooling, and of certain radio newscasters, we are much more critical of errors made in public utterances by those who hold university degrees and especially those of the so-called learned professions.

Most physicians are not serious offenders in nontechnical or nonmedical speech. It is with medical words, or at least words used more commonly by physicians, that one hears certain terms mispronounced with considerable regularity. While the younger physicians tend to be less careful than the visiting staff, one cannot escape the conclusion that the resident staff and younger doctors usually pronounce words as they have heard them used in the classroom and the clinic by their teachers and by the senior staff. This suggests the responsibility of lecturers and teachers in exercising some care in speech since their use of words will be considered authoritative by many in their audience.

Since there are obvious disadvantages in verbal correction of individual errors in pronunciation in one's associates and even in the resident staff, it would appear that the precept of example in correct speech by lecturers and an occasional brief admonitory talk to stimulate word consciousness or "orthoëpic" consciousness are the best substitutes.

So far as authority for correct pronunciation of words is concerned, there appears little doubt that the standard dictionaries represent the pronunciations acceptable and in general use by educated and cultured people, and, as a rule, these authorities are in close agreement. In them, for the majority of words, a single pronunciation is given; in a small number, two or more are allowed, but one of these is indicated as the preferred or desirable pronunciation; while in a few there is such a difference of opinion that two are considered of equally good usage.

Medical dictionaries as a rule conform closely to the standard works. The words taken as examples, and to be mentioned, have been selected because of their frequent use and are almost all in the group in which a single pronunciation is accepted by all authorities. In a few instances one may find some less favored acceptance of other pronunciation by one or another of the dictionaries, although the preference for the one cited here

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[1] Reprinted with permission from the Journal of Pediatrics, 21: 386-391, 1942.
[2] Professor of Pediatrics.

is so great as to leave no doubt as to its superior desirability. It is assumed that all of us would prefer to employ the most acceptable usage and would not attempt to justify our use of a less favored pronunciation merely because we could find that it was the second or third choice by some dictionary. There are perhaps some who are quite indifferent to correct pronunciation and feel that so long as their meaning is apparent, their individual deviations in pronunciation are unimportant. To them, such a discussion as this is probably regarded as pedantic and a display of unimpressive erudition and useless precision. It is probable, however, that such persons are relatively few. It must be remembered in this connection that there are often those in an audience whose attention is distracted by a speaker's incorrect pronunciation of a word. If other mispronunciations follow, the speaker, to say the least, has injured his reputation for care and accuracy. Unless one is so great an authority, therefore, that his eccentricities even in pronunciation can be overlooked, it is better to use the orthodox forms.

The opinion is sometimes expressed that widespread general usage of a certain unorthodox pronunciation will eventually render it correct and acceptable. It seems possible that this is true, although the new pronunciation would necessarily have to extend beyond local geographic groups and outside the medical profession. It should be noted that certain unconventional pronunciations may get to be accepted in any local medical community by continued use, but when one speaks in other localities in which the standard pronunciation is observed, his usage will be considered incorrect or provincial.

In a certain few words only has the preference of certain groups for an unauthorized pronunciation actually led to the mention of this preference by English dictionaries. For example, the word *route* for which Webster states, "*Root* is now the generally accepted pronunciation, but in certain cases *rout* (*ou* as in *out*) prevails, as in military use, among railroad men, and, colloquially, of a delivery route."

In considering medical speech defects, it is of some interest to speculate on their etiology. Mention has been made of the tendency to imitate the pronunciation of medical lecturers and speakers especially by medical students and junior interns. For example, in the medical school with which I am familiar, the widespread use of AB-do-men* for the much-to-be-preferred ab-DO-men is apparently due to the fact that the former pronunciation is employed by a popular lecturer in medicine. As a contrast another illustration may be mentioned. A few years ago when the St. Louis

* Since the diacritical marks used in dictionaries to indicate pronunciation may be confusing to some, the simpler method of phonetic respelling is used with the accented syllable printed in capitals.

encephalitis epidemic was being investigated, some of us questioned the pronunciation of "pahliomyelitis" (poliomyelitis) by our visiting physicians of the U. S. Public Health Service until we consulted general and medical dictionaries and found that was the only one given. Since then it has been mildly amusing to note that when I speak of "pahliomyelitis" to students—and sometimes to interns—someone in the group takes occasion to refer quickly to "POHliomyelitis" apparently with the implication that if I prefer a provincial pronunciation, he will stick to the one in common use.

Probably the most common cause of mispronunciation is *false analogy,* since all words with certain syllables in common are not pronounced with the same accent. For example, the word KIL-o-meter is often mispronounced kil-OM-eter by false analogy with such words as barometer, thermometer, etc., when the true analogy is to millimeter, centimeter, etc. As examples of such medical words may be cited the group ending in *-eal.* The adjectives *peritoneal, otorrheal, seborrheal, gonorrheal* and *diarrheal,* are always correctly pronounced and the accent on the "e" in all of them is apparently related to the fact that the *e* was originally a diphthong such as *æ* or *œ*. However, there are a number of other adjectives with the same ending in which the accent is on the preceding syllable or antepenult so that considerable confusion arises from the false analogy in carrying over the accent from the first group. For example, we frequently hear the wrong accent in such words as men-IN-ge-al, pha-RYN-ge-al, la-RYN-ge-al, pha-LAN-ge-al, coc-CYG-e-al and epi-PHYS-e-al, but it is rather a surprise for some of us to realize that the same accent applies to esophageal (e-so-FAJ-e-al) and appendiceal (ap-pen-DIS-e-al). If usage by many doctors over a number of years gives authority for a new pronunciation then "ap-pen-di-SEE-al" and "e-soph-a-JEE-al" have that authority, but the fact remains that no general dictionary or even any medical dictionary has yet admitted them with the exception of Gould who gives only ap-pen-di-SEE-al.

Another possible cause for errors in pronunciation may be called *spelling pronunciation.* When medical students and many of us after our student days see new and unfamiliar names in print for the first time, these are often mentally pronounced as they are spelled. This visual image and its assumed name which may be incorrect often remain very vivid so that in actual use later such words are associated with our original pronunciation and persist even after we hear them pronounced correctly. As examples of this possibility may be suggested *menarche* which is not men-ARCH, but me-NAR-kah; *flaccid* which is not FLAS-sid but FLAK-sid; *sequela* which is not se-QUEL-la but se-QUEE-la; the plural of *coccus* which is not

COCK-eye but COCK-sigh, and the plural of *fungus,* which is not FUN-guy but FUN-jeye.

A final speculation is that certain medical words may be wrongly accented from an improper *emphasis accent.* It appears possible that when di-LATE is called DI-late, or when a-DULT and re-SEARCH are pronounced AD-ult and RE-search, the speaker may be using an emphasis accent. This false emphasis is much more likely in the use of AP-ne-a and DYSP-ne-a for ap-NE-a and dysp-NE-a although it is more difficult to understand the atrocious garbling of hy-PERP-ne-a and or-THOP-ne-a for hy-perp-NE-a and or-thop-NE-a.

Whatever may be the explanation for some orthoëpic dysfunction among physicians, there are certain additional words which may be commented upon. SYN-dro-me, for example, has a single accepted pronunciation in all standard English dictionaries, but it is frequently called SYN-drome by medical speakers, possibly by false analogy with such words as hippodrome and airdrome. Several similar words of Greek origin, however, such as *syncope* and *systole,* are always given three syllables. Possibly as a result of medical usage medical dictionaries list only SYN-drome, although it seems hardly justifiable to assume that SYN-drome is correct if used medically, but in nonmedical usage the correct form is SYN-dro-me, since this is not a medical word.

Some confusion also exists in the proper sound of *a* since there is a tendency among many to use the short *a* in such words as *digitalis* (dig-i-TAY-lis), *status, ramus, raphe, foramen,* and *data,* all of which are in common use and all of which are pronounced with a long *a.* Similarly *centrifuge* (SEN-tri-fuge) is not SAHN-tri-fuge, nor is *centigrade* pronounced SAHN-ti-grade, and, although SAHN-ti-me-ter *(centimeter)* is given a secondary rating by Webster, the same is not true about CEN-ti-gram.

The recent extensive use of sul-fon-AM-ide drugs in chemotherapy has brought about the unexplained nickname of KEE-mo-ther-a-py by many doctors although others including all dictionaries maintain that all words with the prefix *chem-* are pronounced as in *chemistry.* It is also a mild shock, especially to chemists who speak frequently about the pyridines, to hear sulfapyridine called sul-fa-PIE-ri-dine. It should be remembered, too, that SAL-i-cyl-ates are not sa-LIS-i-lates, that *citrates* (SIT-rates) should not be called SIGH-trates, and that al-BU-min is not AL-bu-min.

There is a tendency for the elision of a syllable or the slurring together of two syllables in such words as *laboratory* and *temperature* which are frequently shortened to "labratory" and "temperture." Several other commonly used words surprisingly enough have three syllables; for example,

CAF-fe-in, RA-bi-es and SCA-bi-es. In the case of *cocain* (ko-KANE), however, the two-syllable pronunciation has the full authority of several standard dictionaries, although Funk and Wagnalls' and the Oxford Dictionary still prefer KO-ka-in, the former referring to ko-KANE as "colloquial" and the latter calling it "vulgar."

With the words *respiratory, inspiratory* and *expiratory,* there is more difference of opinion among the authorities than in any of the others discussed, and a brief summary of the various pronunciations is of some interest. Of twelve standard dictionaries, ten, including all the American ones, accent the second syllable of re-SPI-ra-to-ry. Only two (Hunter's Encyclopedia and Wyld) prefer RES-pi-ra-to-ry, and eight others give this as second choice. In general, in-SPI-ra-to-ry follows the same general pattern, but with ex-PI-ra-to-ry, all agree on the second syllable accent. Of the medical dictionaries there is absolute disagreement, since Stedman gives re-SPI-ra-to-ry and in-SPI-ra-to-ry while Dorland gives only RES-pi-ra-to-ry and IN-spi-ra-to-ry and Gould says RES-pi-ra-to-ry and in-SPI-ra-to-ry.

Only a few other commonly used words will be mentioned. For example, in such words as ophthalmology, diphtheria, and aphthous, the *ph* should have the sound of *f* which is much to be preferred over op-thalmology, diptheria and ap-thous; par-EN-chy-ma is not par-en-CHY-ma nor should parenchymatous (par-en-KIM-a-tous) be called par-en-KY-ma-tous; and u-RE-ter is not YOUR-e-ter. Finally, CER-e-bral and VER-te-bral are not ce-RE-bral and ver-TE-bral; it is the CAV-er-nous sinus and not ca-VER-nous; AU-top-sy is not au-TOP-sy while the word for the microscopic flagellates is not Tri-cho-MO-nas but Tri-KOM-o-nas.

Before closing I should like to comment briefly on two additional speech errors. The first is probably of minor importance and concerns the use of certain singular nouns with plural forms. Human *measles,* for example, is such a word and one should always refer to this disease as "it" and not as "they" or "them," and the same is true of *mumps* and of *rickets.* In this connection might be quoted the anecdote attributed to Horace Greeley, editor of the *New York Tribune,* who always insisted that "news" was plural. On one occasion he wired one of his foreign correspondents, "Are there any news?" to which reply came promptly, "Not a new."

The second group of terms, however, deserves more criticism and includes certain words used in a decidedly inaccurate and unscientific way. They are "pathology" to mean disease, or lesion; "serology" to mean some test for syphilis; "chemistry" to mean determination of certain chemical constituents in blood or other body fluids; and occasionally, "hematology" to mean morphological blood studies. Such expressions as "the lungs showed no

pathology," "he had negative serology," "blood chemistry normal" are becoming so common as to excite no comment, although we have not yet reached the point of saying, "He had no laryngology, or radiology, and his pediatrics was normal except for a four plus serology." In general, the colloquial use of such terms in formal speech is in the same category with the Negro intern who "could not get a post mortem because he couldn't find the autoptician."

In conclusion, I wish to disclaim any pose as an orthoëpic authority, although I admit sufficient interest in nomenclature (and please note that no-MEN-cla-ture is only second choice in all dictionaries) and in the correct pronunciation of words to have prepared this paper. My only object in bringing up the subject is to call attention to some of the words which are being habitually mispronounced and to make a plea for a greater respect for the accepted general usage of words in public speech, since it appears that many do not realize they may be forming unconventional word habits. One might supplement the admonition chosen as the title for this paper, therefore, by saying, "Don't take *your* word for it—unless you know it is the correct one."

How's Your Medical Orthoëpy—Answers

1-c; 2-b; 3-c; 4-a; 5-c; 6-a; 7-b; 8-b; 9-b; 10-c; 11-a; 12-b; 13-b; 14-c; 15-a.

The Role of the Municipal Hospital in Medical Education

LEO J. WADE, M.D.[1]

In his address to the fiftieth annual meeting of The Association of American Medical Colleges, Professor Blankenhorn of the University of Cincinnati, made the following statement:

> "A municipal hospital is a public institution which provides medical relief to the indigent and medically indigent from tax funds. Such an institution is generally run by politicians whose main concern is economy, and rightly so. The medical affairs are always subordinate to the fiscal and are conducted by doctors who contribute their time and energy to a cause. The bulk of medical practice is done by interns who work for nothing except the chance to make up for the inadequacies of their medical schooling. This bargain with the interns has little to do with graduate training. . . . In that particular bargain the municipality has no interest as long as medical costs are decently low and medical practice not scandalous."

In these few sentences, Professor Blankenhorn has summarized beautifully a common conception of the municipal hospital.

Perhaps it has been with some such concept in mind that many a medical school administrator has looked upon the municipal hospital with disdain, even though his young instructors have yearned for the opportunities afforded by its abundance of clinical material. Boards of Alderman and Hospital Commissioners have been distrustful of the medical schools, visualizing increasing costs of operation and even loss of control of their institutions. At the same time, these same city officials have been acutely aware of their need of the expert medical attention and advice which the schools have to offer free of charge.

It may be said to the credit of both groups of persons that each has felt a variable degree of social responsibility for the other. This mutual sense of obligation has served in many instances to bring two such institutions together, making it possible for each to realize that one is complementary to the other—neither is parasite nor host.

The functions of a great hospital (either municipal or private) are similar to those of a great physician:

I. The care of patients,
II. Teaching,
III. Research.

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Of these, the first is obviously the hospital's *raison d' être.* This is the function in which the taxpayer and his chosen representatives are interested. They are interested in (or in some instances are willing to tolerate) teaching and research only in so far as these contribute to, or cheapen, the cost of medical care. They insist, and rightly so, that the curiosity of the student or investigator must not be permitted to interfere with medical care of the patient.

"Teaching" is a second function, not to be segregated from but always subordinated to the first. Strangely enough, it rarely, if ever, works to the patient's disadvantage. On the contrary, there is nothing that can contribute so much to the excellence of the service rendered the patients as the presence of teachers and students on the wards. Not only does it bring the best available talent to the patient's service, but also it does something to stimulate everyone involved in the care of the patient: the nurse, the interne, and even the orderly.

Research must be mentioned quietly in a municipal hospital. It has many dreaded connotations in the minds of the uninformed taxpayer. And yet, we all know as physicians that clinical research can thrive without any untoward effects on the patient, and without any inconvenience or discomfort to the patient. Few hospitals present the marvelous opportunities for controlled observations that one finds in the City Hospital.

Thus far, there has been too little effort to clarify the relative responsibilities of the municipality and the medical school in the execution of these functions. Both have agreed to their moral and social obligations in the medical care of the indigent patient. Simple as this assumption of responsibility may sound, it involves many controversial issues.

At the risk of revealing my political affiliations, I would like to state at this point that I believe indigency should not be rewarded by furnishing fancy medical care. The municipal hospital is not obliged to furnish medical care at the patient's convenience, nor is it obligated to cater to the whims of the neurotic woman at the menopause. The municipality is obliged to afford only accepted forms of therapy. Too often the attending physician requests that medications of unproven value, costing four to ten times as much as other drugs of proven value, be placed at his disposal. Intelligent economy must be the keynote in therapy. On the other hand, no medication should be considered too costly if it offers any reasonable hope of a successful outcome in the absence of cheaper effective agents.

The educational program of the hospital is the hospital's responsibility only insofar as it makes possible the rendering of expert professional services at a reduced cost. The program of most city institutions is four-fold:

(1) House Officers,
(2) Nurses,
(3) Laboratory Technician,
(4) Medical Students.

The American Medical Association and the American College of Surgeons have done much to eliminate exploitation of the interne. The interest of many hospitals (both municipal and private) in the interne has been chiefly utilitarian. The interne has been considered a cheap source of help. Increasing competition for the available internes plus the realization that interne training elevates the calibre of medical services rendered have forced the municipal hospital into certain educational programs.

The residency system is just as firmly established in the municipal hospital as in any other. Numerous departmental conferences, journal clubs and even assigned reading are routine activities under the joint supervision of the attending physicians and chief residents. Library facilities are essential, and provisions therefor are made in the yearly appropriations.

Nursing education has also proved desirable and profitable to the municipal hospital. The oldest nursing schools in this country were developed at Bellevue in 1873 and the St. Louis City Hospital in 1883. In return for the valuable services rendered the patients, the City has assumed the expense of the nurse's education. Libraries, class rooms, laboratories, living quarters, gymnasia have been provided for in the budget not because the municipality is interested in higher education, but rather because the City is interested in the most economical source of help.

The training of laboratory technicians is carried on with the same end in mind. In fact, many members of the professional staff (physicians, nurses, anesthetists, and others) work for meagre salaries so that they may obtain additional training in order to fit themselves for better jobs.

As indicated previously, students on the wards prove to be a powerful stimulus to the housestaff. However, one can hardly assume that the hospital has any obligations for their training. In many instances the medical school pays the house officers for minor teaching duties. When this is not the case, the house officers can hardly be expected to fill in the gaps resulting from tardiness or absence of the regular teaching staff. Minor inconveniences and expenses associated with the presence of the students are gladly tolerated by the hospital in return for the valuable advice and service rendered by the teaching staff.

Research is not a function of the municipality. This is entirely the province of the medical school. Resident house officers should be encouraged to engage in some investigative problem for their own welfare. They should be assisted and supervised by medical school staff members. Unless

the medical school has funds for the purchase of equipment, etc., the type of research must necessarily be limited.

The role of the municipal hospital in medical education is potentially great. But, inasmuch as the municipality cannot justify to its taxpayers the embarkation upon an educational program, the medical school must assume almost complete responsibility for the realization of this potentiality. If each party clearly understands his obligations and duties, as well as the benefits which may accrue from the association, there are opportunities far greater than can possibly be realized in private institutions.

In view of the difficulties of travel and the rationing of food, the Executive Committee has decided to cancel the annual banquets of the Association for the duration.

Report of Conferences

PATHOLOGY

Reported by Dr. Irving S. Goodof

Dermatomyositis

History No. 74641. A 33 year old white man entered the Barnes Hospital on July 8, 1941, complaining of an itching eruption of the face and of aching muscles of four weeks' duration. The eruption covered the face and extended down over the shoulders. There then appeared severe aching pains in the calves of the legs, accompanied by edema of the ankles. The muscles of the arms and hands became involved in the same way, and the patient noticed marked incoordination, especially of the muscles of the hands. He had lost 15 pounds in the two months prior to entry into the hospital. There had been two previous admissions to the hospital, two months and one year before, for treatment of acute pyelitis and acute pharyngitis, respectively. Two severe attacks of rheumatic fever had occurred in childhood.

On admission the temperature was 37.2 degrees centigrade, the pulse was 90 per minute, and the respiratory rate was 22 per minute. The blood pressure was 140/80. An erythematous multiform eruption, bright red in color, was present on the skin of the upper half of the body, most prominent in the scalp and over the bridge of the nose and the adjacent areas of the face. Marked weakness was evident in the muscles of the legs, arms, and of deglutition. The heart was enlarged and signs of aortic regurgitation were present.

Laboratory data: There were 4,210,000 red blood cells per cubic millimeter of blood. The white blood cell count was 15,500. The differential count was: eosinophiles—1%, stab cells—8%, segmented neutrophiles—78%, lymphocytes—8%, and monocytes—5%. The urine was normal. A corrected erythrocyte sedimentation rate was 53 millimeters in an hour. There were 5.5 grams of protein in 100 cubic centimeters of blood, of which 2.6 grams were albumin and 2.9 grams were globulin. The chloride content of the blood was 546 milligrams per 100 cubic centimeters. The blood calcium and phosphorus determinations revealed 8.2 and 3.5 milligrams per 100 cubic centimeters of blood, respectively, with a phosphatase level of 6.7 Bodansky units. The non-protein-nitrogen of the blood was 18 milligrams per 100 cubic centimeters.

After treatment with a diet high in protein, the total protein content of the blood was 7.3 grams per 100 cubic centimeters, with 3.9 grams of albumin and 3.4 grams of globulin. The red blood cell count dropped to

3,000,000 per cubic millimeter of blood and there was a persistent leucocytosis of 15,000 cells per cubic millimeter. After three weeks a cough developed and untyped pneumococci were cultured from the sputum. At this time x-ray examination of the lungs revealed pneumonia. This complication cleared up in about two weeks, and at this time the skin eruption, the subcutaneous edema, and the muscular weakness were markedly improved, although the patient was still extremely weak. Two days later he awoke at 4:30 A. M. with precordial pain and labored respirations. The temperature rose to 39.8 degrees centigrade, the pulse was 140 per minute, and the respiratory rate was 40 per minute. There were rales at the bases of the lungs, cyanosis of the lips and expectoration of blood-tinged mucopurulent sputum. Dullness appeared over the lower lobe of the left lung, and suppressed bronchial breathing and bronchophony were noted in this area. Within twelve hours there was massive atelectasis of the left lung, with marked shifting of the mediastinal structures to the left. The patient developed intense dyspnea and became markedly cyanotic. Bronchoscopy was attempted with aspiration of large amounts of mucopurulent material, but respirations ceased, and the patient died after 54 days of hospitalization.

W. U. Autopsy No. 9387: The left lung was completely collapsed, and there was partial atelectosis of the right lung. The bronchi contained a moderate amount of thick mucinous material. The lower lobe of the left lung was firm and deep red in color, and small flecks of fibrin were present on the surface. The skeletal muscle throughout the body was soft, atrophic, and pale tan in color. Microscopically the muscle fibers varied markedly in size and staining properties. The sarcolemmas were thickened and showed proliferation of nuclei. An increase in connective tissue between the muscle fibers was prominent, and there were many areas of fibrinoid degeneration of collagen. In the muscle fibers were noted loss of cross striations with areas of hyalinization, and swelling and necrosis of the longitudinal fibrils. Focal areas of infiltration with lymphocytes were present. In the skin there was flattening and atrophy of the rete pegs, infiltration of the dermis with lymphocytes, especially around blood vessels, and in some areas necrosis of the walls of arterioles.

Discussion: This is a typical case of dermatomyositis. It corresponds in all of its important manifestations with those which have been described in the medical literature. The etiology and pathogenesis of the disease is unknown. It is a distinct clinical and pathological entity, although numerous authors have attempted to subdivide it according to the lesion which presented itself most prominently. The lesions in the skin are almost indistinguishable from those in scleroderma, but the differentiation is made on the basis of the changes in the muscles. The disease is present all over

the world, and individuals of any age may be affected, most commonly those between the second and fourth decades of life. Any muscle may be involved, most commonly those of the extremities and trunk. Stomatitis and other lesions of mucous membranes are common. There is no involvement of the nervous system and no constant change in the blood picture has been demonstrated. There is often creatinuria, and analysis of the muscles reveals them to be deficient in creatine. All therapeutic agents have given disappointing results.

Rupture of the Abdominal Aorta

History No. 98480. A 64 year old white widow entered the Barnes Hospital on June 27, 1942 complaining of weakness, backache, abdominal pain, and loss of weight of six months' duration. She had been born in Italy, and had lived in Illinois for 46 years. Her past history and systemic review revealed nothing of significance except frequent colds in the winter and a diagnosis of hypertension nine years before admission to the hospital. The patient had been well until 6 months before admission to Barnes Hospital, when she began to lose her appetite and lost weight. Coincidently she noticed undue fatigue. Three months before admission she had a profuse epistaxis which followed rubbing her nose. She was given a transfusion of blood at this time. A diagnosis of pernicious anemia was made, and treatment with liver extract was instituted, producing a marked improvement in the appetite and strength of the patient. One month before entry to Barnes Hospital she first noticed throbbing, intermittent pain in the lower part of the back. This pain frequently awakened her at night and was at times accompanied by pain in the epigastrium. The discomfort became increasingly severe, and she entered the Barnes Hospital.

On admission the temperature was 37.7 degrees centigrade, the pulse was 104 per minute, and the respiratory rate was 20 per minute. There was evidence of considerable loss of weight. The right side of the thorax expanded less than the left, and breath sounds were diminished on the right side posteriorly. The heart was moderately enlarged to the left, and the heart sounds were of poor quality, with splitting of the first sound. No murmurs were heard. There were no other significant finding on physical examination.

Laboratory data: The red blood cell count was 5,210,000 per cubic millimeter of blood and there were 14.5 grams of hemoglobin per 100 cubic centimeter of blood. The white blood cell count was 9,500 per cubic millimeter of blood. The differential count was basophiles—1%, eosinophiles—0%, stab cells—4%, band cells—2%, segmented neutrophiles—65%, lymphocytes—21%, and monocytes—7%. The red blood cells were morphologically normal. The urine contained a moderate amount of albumin and many hyaline

and granular casts. The feces were normal. The Kahn reaction of the blood was negative. The non-protein nitrogen of the blood was 38 milligrams per 100 cubic centimeter of blood. The sternal bone marrow contained an abnormally large number of young myelocytes. Hematrocrit determination, mean corpuscular volume, mean corpuscular hemoglobin, and mean corpuscular hemoglobin concentration were normal. The basal metabolic rate was elevated 28%. Electrocardiographic studies revealed severe myocardial damage of the coronary type. Radiographic examination revealed hypertrophic changes of the lumbar vertebrae, demineralizing of bone, and arterial calcification. There was also sinusitis involving the left maxillary and frontal sinuses.

The patient continued to have severe pain in the lower part of the back, assoicated with epigastric pain. The blood pressure in the right arm was 180/100, in the left arm 172/96, and in both lower extremities 200/115. There was a constant elevation of temperature from 38 to 39 degrees centigrade through the 11 days of hospitalization. Shortly before death the red blood cell count was 3,980,000 per cubic millimeter of blood and the hemoglobin determination yielded 11.9 grams per 100 cubic centimeter of blood. The white blood cell count was 19,550 per cubic millimeter of blood, the differential count revealing 77% segmented neutrophiles and 19% stab cells. On July 7, 1942, while being fed, the patient fell back in bed and ceased to breathe.

W. U. Autopsy No. 9899: The aorta throughout its length contained many large elevated subintimal plaques, many of which were calcified and ulcerated. In the region of the celiac axis, posteriorly, there was a deep arteriosclerotic ulcer, and a perforation opened into the retroperitoneal tissues, which contained about 1000 cubic centimeters of clotted blood. This mass of blood extended into the mesentery, and also up into the retropleural region in the thorax. Two hundred cubic centimeters of fluid blood were present in the peritoneal cavity. The heart was moderately enlarged, and there was a slight focal fibrosis of the myocardium. Microscopically, the aorta, in the area of perforation, contained colonies of bacteria and a moderate number of polymorphonuclear leucocytes. The heart, kidneys, liver and lymph nodes contained infiltration of lmphocytes, polymorphonuclear leucocytes, and myeloid cells. There was myeloid hyperplasia of the bone marrow.

Discussion: This woman had a large atheromatous plaque which had ulcerated through the intima of the abdominal aorta. This ulcerated plaque became infected, and through the action of the bacteria, which were visible in the section, sufficient necrosis of the media and adventitia occurred to allow leakage of blood into the retroperitoneal tissues. It is possible that

slow leakage may have occurred for a considerable period of time, producing pain in the back, but it is difficult to believe that this process continuing for six months, the duration of the patient's symptoms.

Arachnoidal Fibrosarcoma

History No. 29488. A 52 year old white married woman was first admitted to the Barnes Hospital on May 6, 1931, complaining of irregular menstruation. A diagnosis of chronic endocervicitis was made, and radium was applied to the cervix, following which no further trouble was noticed. A significant finding during this period of hospitalization was the blood pressure of 208/110. During the following ten years a basal cell carcinoma was removed from the face, and a calculus was removed from the left ureteral orifice. In 1941, while in California, the patient had a sudden feeling of impending death and lost control of the left arm and leg. She was incoherent and irrational. There was involuntary twitching of the left facial muscles and of the left arm and leg. A convulsion occurred, during which the heart stopped beating and the patient became extremely cyanotic. The attack passed off rapidly and there were no residual symptoms. The patient returned to St. Louis, where her blood pressure was found to be 200/130. She was occasionally somewhat depressed and seemed to lack energy. On November 5, 1941, she developed ataxia of the left arm and leg, complained of headache, and vomited once. The ataxia cleared up in three weeks, after which time she developed a cough and moderate dyspnea, for which she was digitalized. On December 20, 1941, the ataxia of the left arm and leg reappeared and she was readmitted to the Barnes Hospital.

On admission, she was somewhat confused and complained that her memory was poor. There were marked narrowing and tortuosity of the blood vessels of the retina. The heart was enlarged, there was an apical systolic murmur, and the blood pressure was 180/100. Numerous rales were present at the bases of the lungs. There was noticeable ataxia of the left arm and leg, and the Babinski sign was present on the left.

Laboratory data: There were 4,410,000 red blood cells and 9,650 white blood cells per cubic millimeter of blood. The hemoglobin level was 92%. The differential count was normal. The urine contained numerous white blood cells and a trace of albumin. There were 106 milligrams of sugar in 100 cubic centimeters of blood and 14 milligrams of non-protein-nitrogen in 100 cubic centimeters of blood. The Kahn test of the blood serum was negative. Examination of the spinal fluid revealed no abnormalities. An electrocardiographic examination and stereoscopic x-ray films of the skull were normal. A neurological examination revealed a left homonymous hemianopsia.

The patient remained disoriented and incoherent. The weakness and

ataxia of the left arm and leg gradually improved, but the hemianopsia persisted. On January 3, 1942, she began to have attacks of vomiting. A lumbar puncture revealed the spinal fluid to have a pressure of 240 millimeters of water, which was reduced to 150 millimeters after withdrawal of 7 cubic centimeters of spinal fluid. Examination of the fluid was negative. Weakness of the left arm and leg recurred and the patient was transferred to a nursing home. There developed a flaccid paralysis of these extremities. There was also nocturnal loss of control of the urinary bladder.

One month after discharge from the hospital, there was definite bilateral papilledema of the optic disc and there were hemorrhages in the left retina. The patient complained of loss of vision. Vomiting occurred frequently, but was not projectile in type. Weakness of the external rectus muscle of the right eye was noticed, followed by weakness of the right facial muscles and marked edema of the conjunctiva of the right eye. There was difficulty in swallowing and feeding by means of a stomach tube was necessary. The patient lost weight rapidly and remained confused. A severe attack of dizziness occurred, followed by ptosis of the left eyelid. On June 3, 1942 the patient developed a cough and rales were heard at the bases of the lungs. The temperature was 102 degrees Fahrenheit, the pulse rate was 120 per minute. The respirations became more rapid and shallow. The pulse became extremely weak and the patient expired.

W. U. Autopsy No. 9901: A mass of firm gray-white tissue, sharply demarcated from the surrounding brain, occupied a large area in the right temporal and parietal regions. This mass extended into the right lateral ventricle, and in the opposite direction involved the leptomeninges, dura, superior sagittal sinus, calvarium and scalp. The heart was enlarged and there was chronic passive congestion of the liver. The mitral and aortic valves were thickened and contained foci of calcification. There was moderate arteriosclerosis of the aorta. Microscopically the tumor of the brain was composed mainly of spindle-shaped cells containing a moderate amount of cytoplasm. The nuclei varied from an elongated to a spherical type, and numerous mitotic figures were present, many of them being atypical. Associated with the tumor cells were numerous fine connective tissue fibrils. All of the organs, and especially the kidneys, revealed an advanced degree of thickening of the walls of the arterioles.

Discussion: This patient obviously presented signs and symptoms referable to the cardiovascular system and to the central nervous system. The problem of clinical diagnosis is to determine whether the two systems are independently involved or whether there is a relation between the signs and symptoms. In the first place there is obviously a factor of hypertensive

cardiovascular disease, as determined by the consistently elevated blood pressure readings. Are the lesions of the central nervous system a part of the vascular disease? Several facts militate against this supposition. Repeated cerebral vascular accidents are not likely to involve exactly the same regions with each attack. The reduction of pressure of the spinal fluid from 240 to 150 millimeters of water by the removal of only 7 cubic centimeters of spinal fluid points to a space-consuming lesion of some kind. The later development of marked papilledema, and the extremely varied neurological disturbances, such as homonymous hemianopsia, facial weakness and weakness of one rectus oculi muscle are extremely difficult to explain on the basis of vascular accidents, and the diagnosis of tumor must be made. To localize the tumor it is necessary only to consider the presenting signs. Paralysis of the left arm and leg point to a lesion in the right temporo-parietal region, which is, indeed, where the tumor was found.

Otitis Media—Abscesses of the Brain

History No. 99115. A 21 year old white housewife was admitted to the Barnes Hospital on July 23, 1942, complaining of discharging ears, headache, jaundice and chills and fever. Fifteen years before, she had pain in both ears, followed by discharge of purulent material. The ears had continued to discharge intermittently since that time. Twelve years before admission a left myringotomy was performed. At this time there was a swelling behind the ear, extending above and anterior to it. There was profuse drainage from this ear for three months, during which time the patient had numerous chills with an elevation of temperature. Eleven days before admission to Barnes Hospital the patient complained of severe pain in the left frontal region. Chills and fever occurred frequently and persisted until admission to the hospital. She was treated with sulfathiazol and neoprontosil. A lumbar puncture was reported to have been unrevealing. A persistent swelling appeared behind the left ear, and on the day before admission jaundice was observed.

On entry to the hospital the temperature was 40 degrees centigrade, the pulse rate was 134 per minute, and the respiratory rate was 40 per minute. The blood pressure was 95/45. The patient was restless and semistuporous. Icterus was marked. There were distended veins over the eyelids. The pupils were small and reacted sluggishly. The eye grounds were not visualized. There was slight rigidity of the neck. Rales were heard at the bases of the lungs. A normal pregnancy was present consistent in size with the stated six month period of amenorrhea. Irregular contractions of the uterus were palpable. The fetal heart sounds were easily heard. The breasts also showed the changes characteristic of pregnancy. Examination of the

ears revealed bilateral, chronic, hyperplastic, purulent otitis media. There was no evidence of mastoiditis.

Laboratory data: There were 2,380,000 red blood cells and 6,050 white blood cells per cubic millimeter of blood, and 11.3 grams of hemoglobin per 100 cubic centimeters of blood. The differential count was: stab cells—22%, segmented neutrophiles—58%, lymphocytes—19%, and monocytes—1%. The prothrombin time was 35 seconds, as compared with a control of 33 seconds. The icteric index was 80. The non-protein-nitrogen was 33 milligrams per 100 cubic centimeter of blood and the level of sugar in the blood was 161 milligrams per 100 cubic centimeters. The blood contained 5.0 grams of protein per 100 cubic centimeters, of which 2.8 grams were albumin and 2.4 grams were globulin. The carbon dioxide capacity of the blood was 45.2 volumes per 100 cubic centimeters. A lumbar puncture revealed the spinal fluid to have an initial pressure of 195 millimeters of water. There was no block. There were 20 cells per cubic millimeter of spinal fluid, of which 18 were lymphocytes. The Wasserman reaction of the spinal fluid was negative. There were 93 milligrams of sugar and 32 milligrams of protein per 100 cubic centimeters of spinal fluid. The colloidal gold curve and Pandy tests were normal. Cultures from both ears were overgrown with Proteus vulgaris, and cultures of the blood and of the throat showed the presence of a hemolytic streptococcus.

The patient had a spontaneous miscarriage 12 hours after admission to the hospital. The fetus weighed 800 grams and died on the day of birth. The patient's icteric index rose to 200, and the non-protein-nitrogen of the blood was 93 milligrams per 100 cubic centimeters. Treatment with glucose intravenously, transfusions of blood, and sulfadiazine was of no avail, and the patient expired with a temperature of 40.3 degrees centigrade and a pulse rate of 165 per minute.

W. U. Autopsy No. 9947: There was thick yellow purulent material in the middle ear on each side, with a moderate increase in fibrous tissue. A large abscess was present beneath the dura in the left temporo-parietal region, and localized abscesses were present in the cerebrum and cerebellum. There were thrombi in the left transverse and sigmoid sinuses and in the left jugular vein. Thrombi were also present in the tertiary branches of the pulmonary arteries, and there were several infected pulmonary infarcts. A hemolytic streptococcus was cultured from the blood. The liver was large and green in color. Numerous dark foci were present on the cut surface. Microscopically the liver showed a moderate degree of central necrosis, with swollen, vacuolated cells in these areas. Some of the liver cells contained more than one nucleus. The portal canals contained moderate numbers of lymphocytes and polymorphonuclear leucocytes. The cells

of the proximal convoluted tubules of the kidneys were swollen and pale-staining and their nuclei were degenerated. The tubules contained many hemoglobin casts. In the spleen there were many foci of nucleated red blood cells and earlier cells of the erythropoietic series. The abscesses of the brain were surrounded by only a very slight cellular reaction.

Discussion: This patient presents a fairly common history of chronic otitis media. It is apparent that at one time she had an infection of the air cells of the mastoid and probably also of the petrous apex. This infection subsided without surgical intervention but the true extent of the lesion at that time is not known. It is entirely possible that an intracranial abscess formed and was unrecognized until the time of death having in the meantime spread to form the localized abscesses in the brain which produced the complaints that brought her to the hospital.

Bronchiectasis

History No. 77418. A 52 year old man was first admitted to the Barnes Hospital in September, 1939, complaining of fever, malaise, and a productive cough of three months' duration. These symptoms had persisted for 6 days and a doctor had made a diagnosis of bronchopneumonia. One week later the patient experienced a choking sensation and coughed up "about a pint" of dark, foul smelling sputum. A few days later he developed sharp pain over the lower right side of the thorax. This pain was aggravated by coughing or deep breathing. The pleuritic pain disappeared in about three weeks, following which he had no pain for one month, but continued to expectorate a moderate amount of thick green-yellow sputum which was occasionally blood-tinged. One month before entry to the hospital the pleuritic pain recurred, localized chiefly in the upper portion of the right side of the thorax. During the three months before admission, there had been occasional afebrile periods, and at other times the temperature was as high as 101 degrees Fahrenheit. The patient had lost 17 pounds.

On admission to the hospital the temperature was 37.4 degrees centigrade, the pulse rate was 110 per minute, and the respiratory rate was 24 per minute. The blood pressure was 130/80. Positive finding were limited to the thorax where there were limited expansion, dullness, and distant breath sounds on the right side. No rales were heard.

Laboratory data: There were 3,700,000 erythrocytes and 19,600 leucocytes per cubic millimeter of blood. The hemoglobin level was 65%. The differential count was: stab cells—17%, segmented neutrophiles—70%, lymphocytes—10%, and monocytes—3%. The Kahn reaction of the blood serum was negative. The sputum was purulent and on culture yielded an anaerobic streptococcus and diphtheroid bacilli. There were no acid fast organisms or fungi on direct examination of the sputum, and an inoculated guinea pig

showed no evidence of tuberculosis. X-ray examination of the thorax revealed infiltration of the lower lobe of the right lung.

The patient remained in the hospital for five days, during which time the temperature ranged from 37.4 to 39.2 degrees centigrade. Bronchoscopy revealed the bronchus to the lower lobe of the right lung to be constricted and the mucosa injected. There was no evidence of tumor. Lipiodol bronchograms revealed normal filling of those bronchi which were filled. The patient was discharged and readmitted two weeks later. During this period the cough remained as before. Five days before readmission to the hospital the patient noticed an itching eruption of the skin, which lasted for three days. Two days before admission there was hemoptysis of about one pint of blood. The physical findings and laboratory data were not significantly changed. Again the patient was discharged after bronchoscopy which added no significant information, and during the two weeks in which he remained at home there was a chill almost daily, the temperature rising to 41.1 degrees centigrade. The sputum remained profuse. On readmission to the hospital the white blood cell count was 28,700 per cubic millimeter of blood. Bronchoscopy was performed, and a large amount of purulent material was aspirated. The bronchial mucosa was bright red, but otherwise no change was observed. On the following day the temperature was normal, but the patient complained of abdominal pain and distention. Enemata were given, and there were no returns. A stomach tube was passed, and a liter of thin fluid was aspirated. On the following morning, hematemesis of several hundred cubic centimeters of bright red blood occurred, and the patient was found to be in shock. The blood pressure was 63/48. X-ray examination revealed findings which were interpreted as suggestive of colonic ileus. The abdominal distention increased and extreme tenderness was present over the entire abdomen. The patient died unexpectedly one hour later.

W. U. Autopsy No. 8365: The lower lobe of the right lung was the site of advanced bronchiectasis, the bronchi being filled with purulent material and blood. The parenchyma of this lobe was firm, and characteristic of organizing pneumonia. Numerous small abscesses were present. The pleura of the right lung was thick and adherent to the parietal pleura by fairly firm fibrous bands. There was bronchopneumonia of the lower lobe of the left lung. The peritoneal cavity contained a localized peritonitis in the perisplenic region. There was a well-localized abscess in the lower pole of the spleen, which had ruptured into the peritoneal cavity. The left lobe of the liver contained a large abscess and several smaller ones. Microscopically, the gross impressions were confirmed, and the liver was found to be the seat of diffuse pylephlebitis with thrombosis and suppuration.

Large dilated capillaries were present in the walls of the bronchiectatic cavities, close to the necrotic surfaces.

Discussion: This man has a fairly characteristic history. An attack of bronchopneumonia, followed, after a short time by profuse expectoration, is often the beginning of a long illness due to bronchiectasis. In this case, however, the lesion progressed with great rapidity, and bacteria apparently entered the blood stream during the two weeks before his final admission, when he had chills almost daily. Once in the blood, the organisms invaded the spleen, producing an abscess, and then peritonitis, as a result of rupture of the abscess. Intrahepatic pylephlebitis was probably a result of bacterial emboli in the splenic and portal veins.

UROLOGY

Reproductions of Renal Overdistension Pain. Its Clinical Diagnostic Value[1]

Reported by Carl A. Wattenberg, M.D. and D. K. Rose, M.D.

Renal pain, due to overdistension of a blocked ureter or pelvis, can be reproduced by overdistending a ureter or pelvis through a catheter, with a non-irritating solution.

The procedure long has been noted; however, a few variables placed the test in partial disrepute some years ago. This was due to the fact that the physiological explanations for these variables were not known. Observation over a period of years has been made at Barnes Hospital and Mallinckrodt Institute of Radiology to determine the value of the procedure as a diagnostic aid, to establish the above mentioned variables, and to give physiological explanation for their presence.

When a block in the drainage system of a kidney occurs, the reaction above the block varies according to degree of block and the time it exists. A complete block may occur without overdistension pain, or if the pain does result it usually is of short persistence. A partial block, on the other hand, invites an attempt on the part of the muscle above said block to continue to perform its function of emptying. This process of pelvic emptying is altered as to whether the block is constant or intermittent. Given an obstruction, the muscle above it early becomes hypertrophic and at this time the increased intrapelvic pressure causes pain. Eventually, however, a pressure anaesthesia occurs, and so in the hydronephrotic kidney we often find the patient without pain, and we are unable then to repro-

[1] Abstract of paper read at the South Central Section of the American Urological Society, Sept. 26, 1942.

duce direct kidney pain by cystoscopic overdistension. Referred pains occasionally may be reproduced.

That which appears to be a minor defect in the pyelogram may be an important functional alteration in physiology. When we have an indefinite change in the pyelogram, a mild nephroptosis, just a suggestion of an aberrant blood vessel, a psoas muscle block, et cetera, reproduction of the patient's pain by this procedure is, with the exception noted above, valuable as a differential diagnostic procedure.

Publications by the Staff of the School of Medicine

WASHINGTON UNIVERSITY

September-November, 1942

Alexander, H., Hageman, P., Harford, C. G., et al. Periarteritis nodosa with involvement of the heart, lungs, liver, spleen, pancreas, adrenals, kidneys, bladder, skin, meninges and brain, [Barnes case 5] J. Missouri M. A., 39: 372-374, Dec. 1942.

Alexander, H., Massie, E., Reinhard, E., et al. Actinomycotic abscesses of the spleen and liver, thrombophlebitis of splenic vein at hilum of spleen, acute fibrinopurulent peritonitis, fibrous scars in the lower lobe of left lung, fibrous pleural adhesions over diaphragm and partial destruction of muscle of diaphragm, acute fibrinous pleurisy, right, [Barnes case 4] J. Missouri M. A. 39: 349-351, Nov. 1942.

Alexander, H., Moore, R., Hageman, P., et al. Bronchiectasis of both lower lobes, pleurisy, right, [Barnes case 3] J. Missouri M. A. 39: 347-349, Nov. 1942.

Alexander, H., Wood, W. B., Jr., Massie, E., et al. Monocytic leukemia with infiltration of the lymph nodes, bone marrow, spleen, liver, heart and kidneys, [Barnes case 6] J. Missouri M. A. 39: 374-376, Dec. 1942.

Blades, Brian, and Kent, Edward M. The anatomic approach to pulmonary resection. Ann. Surg. v. 116: 782-794, Nov. 1942.

Blades, Brian, and Graham, Evarts A. The surgical treatment of bilateral bronchiectasis. Surg. Gynec. & Obst. v. 75: 457-464, Oct. 1942.

Bradley, F. R. Barnes centralizes laboratory service. Mod. Hosp. v. 59: 65-66, Oct. 1942.

Brown, Frank A., Hempelmann, L. H., Jr., and Elman, Robert. Scientific apparatus and laboratory methods: the determination of blood volume with red blood cells containing radioactive phosphorus (P^{32}). Science, v. 96: 323-324, Oct. 2, 1942.

Carruthers, Christopher. An improved photometric method for ascorbic acid. Indust. & Engin. Chem. (Analyt. ed.) v. 14: 826-828, Oct. 1942.

Cooke, Jean V. Don't take your word for it. J. Pediat. v. 21: 386-391, Sept. 1942.

Costen, James B. Reflex effects produced by abnormal movement of the lower jaw. Arch. Otolaryng. v. 36: 548-555, Oct. 1942.

Cowdry, E. V. The new public health. Scient. Monthly, v. 55: 355-360, Oct. 1942.

Dean, L. W., Jr. Histoplasmosis of the larynx. Arch. Otolaryng. v. 36: 390-392, Sept. 1942.

Elman, R., and Large, A. M. Contributions made to knowledge in regard to the pancreas in 1941. Am. J. Digest. Dis. v. 9: 303-306, Sept. 1942.

Engman, Martin F., Jr., and MacCardle, Ross C. XCIV. A new approach to the problem of disseminated neurodermatitis. Arch. Dermat. & Syph. v. 46: 337-347, Sept. 1942.

Firminger, H. I., and Wicks, L. F. Perchloric acid in microkjeldahl digestions. Indust. & Engin. Chem. (Anal. ed.), v. 14: 760-762, Sept. 1942.

Gildea, E. F., Man, E. B., Smirnow, A. E., and Peters, J. P. Serum iodine fractions in hyperthyroidism. J. Clin. Investigation, v. 21: 773-780, Nov. 1942.

Hartmann, Alexis F., Wolff, Dorothy, and Love, Francis. Diagnosis and management of severe infections in infants and children: a review of experiences since the introduction of sulfonamide therapy. I. Sepsis of lateral sinus phlebitis. J. Pediat. v. 21: 435-474, Oct. 1942.

Hartmann, Alexis F., Wolf, Dorothy, Love, Frances, and Kendall, Barbara S. Diagnosis and management of severe infections in infants and children. A review of experiences since introduction of sulfonamide therapy. II. Hemolytic streptococcal meningitis. J. Pediat. v. 21: 591-624, Nov. 1942.

Hershey, A. D. Specific precipitation. IV. Quantitative application of the restricted theory. J. Immunol. v. 45: 39-50, Sept. 1942.

Hobbs, John E. Repair of vesico-vaginal fistulae. Urol. & Cutan. Rev. v. 46: 545-547, Sept. 1942.

Jensen, Julius. Physiologic considerations of heart disease. J. Missouri M. A. v. 39: 360-362, Dec. 1942.

Jorstad, Louis H. Diagnosis, treatment and prognosis of carcinoma of buccal mucosa. South. M. J. v. 35: 970-973, Nov. 1942.

Julianelle, L. A., and Moore, Elizabeth. Pathological changes in listerella infection particularly of the eye. Am. J. Path. v. 18: 813-825, Sept. 1942.

Kalmanson, G. M., and Bronfenbrenner, J. Evidence of serological heterogeneity of polyvalent "pure line" bacteriophage. J. Immunol. v. 45: 13-19, Sept. 1942.

Kalmanson, G. M., Hershey, A. D., and Bronfenbrenner, J. Factors influencing the rate of neutralization of bacteriophage by the antibody. J. Immunol. v. 45: 1-12, Sept. 1942.

Kent, Edward M., and Blades, Brian. The surgical anatomy of the pulmonary lobes. J. Thoracic Surg. v. 12: 18-30, Oct. 1942.

Lansing, Albert I., and Scott, Gordon H. The effect of perfusion with sodium citrate on the content and distribution of the minerals in various cells of the cat as shown by electron microscopy and microincineration. Anat. Rec. v. 84: 91-96, Sept. 1942.

Lawler, J. A. A modification of the Kahn test for use with hemolyzed blood. J. Lab. & Clin. Med. v. 28: 193-198, Nov. 1942.

MacBryde, Cyril, Loeffel, Ellen, and Castrodale, Dante. Sublingual administration of diethylstilbestrol; comparison of routes in therapy. J. Clin. Endocrinol. v. 2: 569-570, Sept. 1942.

McCarroll, H. R. The role of physical therapy in the early treatment of poliomyelitis. J. A. M. A., v. 120: 517-519, Oct. 17, 1942.

Miller, Mary L., and Moore, Robert A. Variation in the daily urinary excretion of androgens in relation to benign hypertrophy of the prostate. J. Urol. v. 48: 544-548, Nov. 1942.

Moore, Morris. The choriollantoic membrane of chick embryos and its response to inoculation with some mycobacteria. Am. J. Path. v. 18: 827-847, Sept. 1942.

Mueller, C. B., and Graham, Evarts A. Influence of hypophysectomy on the epithelization of wounds and fibrola. Arch. Surg. v. 45: 534-541, Oct. 1942.

Sachs, Ernest. Hydrocephalus. (Analysis of ninety-eight cases) J. Mt. Sinai Hosp. v. 9: 767-791, Nov.-Dec. 1942.

Scott, Wendell G. Low back pain resulting from arthritis and subluxations of the apophyseal joints and fractures of the articular facets of the lumbar spine. Am. J. Roent. v. 48: 491-509, Oct. 1942.

Senturia, Ben. H., and Thea, Alfred R. Bone conduction in audiometry. (1) Literature review and report of preliminary observations. Laryngoscope, v. 52: 675-687, Sept. 1942.

Smith, John R. Clinical considerations of pericarditis. J. Missouri M. A. v. 39: 368-372, Dec. 1942.

Smith, John R., and Kountz, William B. Deformities of the thoracic spine as a cause of anginoid pain. Ann. Int. Med. v. 17: 604-617, Oct. 1942.

Sobin, Sidney S. Sulfonamide solubility in urea. J. Lab. & Clin. Med. v. 27: 1567-1568, Sept. 1942.

Soule, S. D. Estrogen-withdrawal bleeding. Am. J. Obst. & Gynec. v. 44: 684-686, Oct. 1942.

Stowell, R. E. Photometric histochemical determination of thymonucleic acid in experimental epidermal carcinogenesis. J. Nat. Cancer Inst. v. 3: 111-121, Aug. 1942.

Taussig, Fred J. In memoriam. Hugo Ehrenfest. Am. J. Obst. & Gynec. v. 44: 367-369, Sept. 1942.

Urban, Frank, and Carruthers, Christopher. Isolation of a new "carotenoid" from rat liver. Science, v. 90: 279-280, Sept. 18, 1942.

Wade, Leo J. The effect of pregnancy upon experimental tuberculosis in rabbits. Weekly Bull. St. Louis M. Soc. v. 37: 867-869, Nov. 6, 1942.

Warson, Samuel R. The role of psychiatrists in the army induction program. J. Missouri M. A., v. 39: 318-320, Oct. 1942.

Wattenberg, Carl A., and Heinbecker, Peter. The treatment of acute appendicitis in children as influenced by chemotherapy. Surgery, v. 12: 576-583, Oct. 1942.

Wood, W. B., Jr., Hempelmann, L., Arrowsmith, W. R., et al. Malignant adenoma of right main bronchus with a solitary metastasis to the liver; sarcoidosis involving the lung, pleura and tracheobronchial lymph nodes, [Barnes case 2] J. Missouri M. A. 39: 323-325, Oct. 1942.

Wood, W. B., Jr., Smith, M. and Moore, R. A. Tularemia, bronchopneumonia with foci of necrosis of the lower lobes of the lungs, fibrinopurulent pleurisy (right), focal necrosis of the spleen, liver and lymph nodes, [Barnes case 1] J. Missouri M. A. 39: 321-323, Oct. 1942.

Wu, S. D. Anatomic changes in the prostate of patients with cirrhosis of the liver. Arch. Path. v. 34: 735-741, Oct. 1942.

News from the Medical School and Affiliated Hospitals

Dr. Mary Caroline Abney, '35, joined the staff of Barnes Hospital as Administrative Assistant to the Superintendent on November 5th. Dr. Abney interned at the Hospital of Woman's Medical College in Philadelphia in 1935 and 1936, and was resident pediatrician at Brandywine Sanatorium in Delaware from 1936 to 1938. She interned in pediatrics at Bellevue Hospital in New York from October, 1938 to January, 1939, when she went to Washington, D. C., where she remained nine months. From November 1940 to February, 1942, Dr. Abney was health examiner for the N. Y. A. in Puerto Rico.

Dr. William M. James, Assistant Professor of Clinical Ophthalmology, read a paper prepared by himself and Dr. L. A. Julinelle on "Molluscum Contagiosum of the Eye" before the Southern Medical Association meeting which was held in Richmond, Virginia on November 12.

Dr. Lawrence T. Post, Professor of Ophthalmology, was guest speaker for the Detroit Ophthalmological Society on November 12. The subject of his address was "Surgical Pitfalls."

The Department of Surgery, under the direction of Dr. Evarts A. Graham, has arranged short postgraduate courses in the specialties of surgery for the U. S. Army. The first group of 40 officers arrived on November 8 and will remain for six weeks. Instruction will be given in a number of the departments of the school. Among this group of officers are two alumni of the medical school; Lt. Col. Robert M. Moore, '26, and Lt. Col. Walter Matuska, '31.

Dr. Lawrence Post, Professor of Ophthalmology, was elected President of the American Academy of Ophthalmology and Otolaryngology at the recent meeting in Chicago.

The Washington University School of Medicine and the Barnes Hospital were well represented at the annual meeting of the Central Society for Clinical Investigation in Chicago on November 8 and 9. Papers were presented by Dr. Edward Reinhard, Dr. Carl V. Moore, Dr. R. Dubach and Dr. Leo J. Wade on "The Effect of Administering 80% to 100% Oxygen on the Erythrocyte Equilibrium in Patients with Sickle Cell

Anemia," and by Dr. Ray Williams, and Dr. Edward Kendall on the "Influence of Thiamine on Induced Hyperthyroidism." Dr. Carl V. Moore was re-elected secretary-treasurer.

Dr. Carl V. Moore, Assistant Professor of Medicine, has been appointed an assistant editor of the new journal "Nutrition Reviews." The editor is Dr. Frederick J. Stare, now Assistant Professor of Nutrition at Harvard University, who was at Washington University and Barnes Hospital last year.

Dr. W. Barry Wood, Jr., Busch Professor of Medicine, is serving as a member on the Committee on Chemotherapy of the Division of Medical Sciences of the National Research Council.

On December 9, Dr. Karl Meyer, Professor of Bacteriology and Director of the Hooper Foundation of the University of California, gave the annual A. O. A. lecture at Washington University. His subject was "Plague."

Dr. Joseph Erlanger, Professor of Physiology, is serving as a member of the Committee on Shock and Transfusion of the Division of Medical Sciences of the National Research Council.

Dr. Robert A. Moore, Professor of Pathology, has been elected a member of the Board of Trustees of the American Board of Pathology.

According to the Journal of the American Medical Association, the Secretary of War has appointed a committee to study the medical services of the Army. The purpose of the study will be to assure the personnel of the Army the best possible medical care. Dr. Evarts A. Graham, Professor of Surgery, is a member of this committee.

The first annual Robert J. Terry Lecture of the St. Louis Medical Society was given on Tuesday evening, December 1, by Dr. Stuart Mudd, Professor of Bacteriology at the University of Pennsylvania School of Medicine. Dr. Mudd spoke on "The Morphology of Pathogenic Bacteria and Viruses as shown by the Electron Microscope with some Practical Implications." Dr. Mudd was a student at the Washington University School of Medicine for his first two years, and during the second year completed, with Dr. Sam Grant, an investigation on the effect of low temperature on the incidence of upper respiratory infections that has been widely quoted.

On November 17, Dr. Peyton Rous, a member of the Rockefeller Institute for Medical Research, gave the annual Barnard Hospital lecture in the auditorium of the St. Louis Medical Society. His title was "The Nearer Causes of Cancer."

Presentation of the St. Louis Award to Dr. Evarts A. Graham
From left Dean Alphonse M. Schwitalla of St. Louis University School of Medicine; Dr. Graham; his mother, Mrs. David W. Graham, and Mayor William Dee Becker

Dr. Evarts Ambrose Graham, Bixby Professor of Surgery, was the recipient of the St. Louis Award for 1941-42. This award is made by a committee to the outstanding citizen of the city. The citation for Dr. Graham emphasized his basic contributions in the development of thoracic and hepatic surgery and his international leadership in the field of surgery with particular reference to injuries incident to warfare.

Major Julia C. Stimpson, superintendent of the Army Nurse Corps and president of the American Nurses Association, addressed the nurses of St. Louis in the auditorium of the Washington University School of Medicine on Wednesday evening, November 25. Major Stimpson is former Dean of the Washington University School of Nursing and was head of the Nurse Corps of the Base Hospital No. 21 during World War I. A tea was given in her honor at the Nurses Home on Friday afternoon, November 27.

Miss Louise Hilligass, R.N., has been appointed Superintendent of Nurses at the Barnes Hospital effective January 1. Miss Hilligass served with Base Hospital No. 21 in World War I, and has, for the past twenty years, been associated with the University Hospital at Columbia, Mo. as a teacher and administrative officer.

The annual meeting of the Association of American Medical Colleges was held in Louisville on October 26, 27 and 28. Washington University was represented by Dr. Philip A. Shaffer, Dr. Carlyle Jacobsen and Dr. Robert A. Moore. The chief topics of discussion were the accelerated program of medical education and the teaching of tropical and military medicine. In view of the dispersal of American troops in all parts of the world it is necessary to introduce into the medical curriculum instruction on diseases that are ordinarily not seen in temperate climates. The association passed a resolution making it possible for those medical schools that wish to admit students after only two academic years of pre-medical education.

Dr. Borden Veeder, Clinical Professor of Pediatrics, presided at the annual meeting of the American Academy of Pediatrics in Chicago on November 4, 5, 6 and 7. Many members of the staff of the University participated in the program. Dr. Hugh McCulloch exhibited a collection of books pertaining to pediatrics and a series of annotations on the current literature which is published as a part of the Journal of Pediatrics. Dr. Jacques Bronfenbrenner, Professor of Bacteriology, served as chairman at a symposium on "Viral Infections." Dr. R. J. Blattner and Dr. Florence M. Hayes presented a paper on "The Experimental Transmission of St. Louis Encephalitis Virus to Mice." Dr. Henry L. Barnett reviewed the subject of "Renal Complications of Sulfonamide Drugs." In addition he presented an investigation carried out by himself with Mr. Gene Klingbeg, '43, and Miss Anne Perley on "The Effect of Binding of Sulfathiazol by Plasma Proteins on Its Distribution in the Body with Reference to the Use of Sulfathiazol in the Treatment of Bacterial Meningitis." Dr. Katherine Bain and Dr. Martha M. Elliott, former members of the staff of St. Louis Children's Hospital, participated in the round table discussion on "Adolescence." Dr. Harry L. Alexander, Professor of Clinical Medicine, was one of the principal speakers in the panel discussion of "Allergy and Immunotherapy."

New appointments to the School of Medicine include: Dr. Walter E. Sullivan as Visiting Professor of Anatomy for a period of six months beginning January 1, 1943; Miss Roberta Foote as Lecturer in Public Health;

Dr. George Manting as Instructor in Clinical Dermatology; Dr. Herman Rosenfeld as Instructor in Clinical Medicine; Dr. Kenneth Glaze as Instructor in Clinical Medicine; Dr. Charles Gilliland as Assistant in Clinical Medicine; and Dr. Virgina Lanier as Assistant in Pediatrics.

Resignations from the staff of the School of Medicine include: Dr. S. Howard Bartley as Research Associate in Biophysics and Psychology effective September 30, 1942; and Mr. Robert Loeffel as Research Assistant in Pharmacology effective October 31, 1942.

Leaves of Absence for Military Duty have been granted to the following: Dr. Hubert L. Allen, Assistant in Clinical Obstetrics and Gynecology; Dr. Norman Arneson, Assistant Professor of Clinical Obstetrics and Gynecology and of Clinical Radiology; Dr. William Arrowsmith, Assistant in Clinical Medicine; Dr. Loren F. Blaney, Assistant in Clinical Medicine; Dr. Arthur Bortnick, Instructor in Clinical Obstetrics and Gynecology; Dr. Alfred J. Cone, Assistant Professor of Clinical Otolaryngology; Dr. Arthur C. Darrow, Assistant in Clinical Medicine; Dr. Robert Evans, Instructor in Anatomy; Dr. Hyman H. Fingert, Instructor in Clinical Psychiatry; Dr. Alfred Fleishman, Assistant in Clinical Medicine; Dr. Paul Hartman, Assistant in Clinical Psychiatry; Dr. William D. Hawker, Assistant in Clinical Obstetrics and Gynecology; Dr. Bruce Kenamore, Instructor in Clinical Medicine; Dr. Melvin B. Kirstein, Assistant in Clinical Medicine; Dr. Albert I. Lansing, Assistant in Anatomy; Dr. Saul Mackler, Fellow in Chest Surgery; Dr. Robert Dean Mattis, Assistant in Clinical Ophthalmology; Dr. John E. Miksicek, Assistant in Clinical Psychiatry; Dr. David Rothman, Instructor in Clinical Obstetrics and Gynecology; Dr. Howard Rusk, Instructor in Clinical Medicine; Dr. Bernard Schwartzman, Assistant in Clinical Pediatrics; Dr. John W. Seddon, Instructor in Clinical Medicine; Dr. Milton Smith, Assistant in Clinical Medicine; Dr. Samuel Warson, Assistant Professor of Psychiatry; Dr. Helman C. Wasserman, Instructor in Clinical Obstetrics and Gynecology; Dr. Theodore E. Weichselbaum, Research Associate in Bacteriology; and Dr. William K. Wilson, Assistant in Clinical Surgery.

The Chancellor announced the following gifts to the School of Medicine between October 1 and December 31, 1942.

From the Office of Scientific Research and Development, a grant to Dr. Bronfenbrenner in the Department of Bacteriology; from The Commonwealth Fund, an appropriation of $2,580 to Dr. Heinbecker in continued support of study of kidney function with special reference to endocrine

control; from Mrs. M. Herndon Smith, $250 for research work under the direction of Dr. W. B. Kountz; from Mr. Edward Mallinckrodt, Jr., $1,000 for the Neurological Service; from C. V. Mosby Company, $375 in support of the Marriott Scholarship; and from Liggett and Myers Tobacco Company, $75 to the Washington University Medical Clinic.

Dr. Theodore Walsh, Professor of Otolaryngology, attended the meeting of the American Academy of Ophthalmology and Otolaryngology in Chicago on October 12. He discussed a paper by Dr. A. C. Hilding on "The Relationship of Ciliary Insufficiency to Death from Asthma and Other Respiratory Diseases."

Miss Alfhild Johnson, R.N., has resigned as Superintendent of Nurses, effective December 31. Miss Johnson, a graduate of the School of Nursing, has served faithfully during the reorganization period of the last few years. She leaves to continue her training and to pursue interests in the field of public health.

At the meeting of the Dallas Academy of Ophthalmology and Otolaryngology, November 3 and 4, Dr. Theodore Walsh, Professor of Otolaryngology, as guest speaker discussed "Prophylaxis and Treatment of Upper Respiratory Infections" and "The Treatment of Acute Laryngotracheobronchitis."

Dr. Hugh McCulloch, a member of the Board of Directors of the American Academy of Pediatrics, served as an examiner for the American Board of Pediatrics. The examination was given just prior to the Academy Meetings during the first week in November.

Dr. Francis Scott Smyth, Dean of the Medical School and Professor of Pediatrics at the University of California visited the Department of Pediatrics on his return from a convention of the Association of American Medical Colleges at Louisville. He attended a clinical conference here on Friday, October 30, at which Dr. Francis Schwenber of the Rockefeller Institute read a paper entitled "Studies on Scarlet Fever and Known Hemolytic Streptococcus in the Nose and Throats of People in Village Communities in Rumania."

Dr. Malcolm M. Cook attended two sessions held at the University of Minnesota October 5 and November 21 for the study of the methods of Sister Elizabeth Kenny in the treatment of poliomyelitis.

Dr. Ernest Sachs, Professor of Clinical Neurological Surgery, addressed the 27th annual meeting of the International Medical Assembly of the Inter-State Post-Graduate Medical Association of North America in Chicago in October. His subject was "Penetrating Wounds of the Head."

The following memorium has been inscribed in the minutes of the Executive Faculty and of the Library Committee:

On October 6, 1942 the faculty and students of the Washington University School of Medicine lost one of their most devoted and unselfish servants and a true counsellor and guide in the intricacies of medical literature.

Miss Ella Bailey Lawrence was born in Camden, Delaware, on March 8, 1878. She received her training at the Public Library in Jacksonville, Illinois and found her first position as librarian to the Morgan County Medical Association. In 1913 she came to St. Louis as librarian of the St. Louis Medical Society.

On November 1, 1915 she began her long career as librarian at our Medical School. Under her administration well rounded groups of the classics of medicine, of books and monographs and of periodicals were acquired and under her tutelage the library has grown to one of the outstanding medical libraries in this country.

The concept of a library for use was established. The details of organization, the spirit of friendliness and helpfulness which pervaded the library and the successful continuation of this policy over many years were entirely due to Miss Lawrence. Her knowledge of books, old and new, was very extensive and was available for the asking to faculty and students alike. She believed in the use of books rather than in their sequestration on the shelves, even at the expense of some of the niceties of organization.

Her indefatigable energy carried her work beyond the confines of the medical school. She played a leading role in the Medical Library Association and for 14 years she served as the Manager of the Medical Library Association Exchange, a national organization. In the latter capacity she has rendered invaluable service to the scientific libraries in this country by acting as a clearing house for the prompt exchange of books and periodicals.

In November 1940, the anniversary of her 25 years of work in the library was celebrated as a small token of esteem for her deep spirit of loyalty and service. Miss Lawrence was an institution in our school and her passing has left a gap which it will be difficult to fill, but we may be sure that her example will be an incentive to carry on the work so well begun.

News of Alumni

1886

A. D. Cloyd, Omaha, Nebraska, was a visitor at the medical school on October 22. Dr. Cloyd is Medical Director of the Woodmen of the World.

1911

David Penney, 3902 Olive St., St. Louis, Mo., Class Secretary.

Clyde P. Dyer, St. Louis presided at the meeting of the Mississippi Valley Medical Editor's Association at Quincy, September 30, and presented the "Address of the President."

1918

Wayne A. Rupe, 4932 Maryland, St. Louis, Mo., Class Secretary.

Earl C. Padgett, Kansas City, was a guest of the Polk County (Iowa) Medical Society at Des Moines, September 16, and spoke on "Burns and Other Traumatic Injuries."

1920

Hiram Liggett, 3720 Washington, St. Louis, Mo., Class Secretary.

Senior Surgeon Adolph Rumreich, U. S. P. H. Service, is a member of the commission to study typhus in war zones newly organized by the War and Navy Departments. Dr. Rumreich was commissioned in the Public Health Service in 1924. He has conducted investigation of typhus fever and Rocky Mountain spotted fever, and in 1935 was assigned to the United States embassy in Moscow and while there investigated typhus fever in Russia.

1922

Dr. Armin C. Hofsommer, 639 Lee, Webster Groves, Mo., Class Secretary.

Roger Deakin was elected President of the American Neisserian Society for the year 1942-43 at a meeting of the society. The convention of the society was held in Hot Springs, Arkansas in October.

Curtis H. Lohr was elected president-elect of the Missouri Hospital Association at the recent meeting of the state organization, held during the National meeting of the American Hospital Association in St. Louis.

1923

Oliver Abel, Jr., 4952 Maryland, St. Louis, Mo., Class Secretary.

Lieut. Commander Roland Stuebner is stationed at the Naval Hospital at Mare Island, San Francisco, Calif.

1927

Dr. Alvah G. Heideman, Metropolitan Bldg., St. Louis, Mo., Class Secretary.

D. R. Webb gives as his address 716 Merchants Bank Bldg., Cedar Rapids, Iowa.

1932

Louis T. Byars, 607 N. Grand, St. Louis, Mo., Class Secretary.

Major Alvin W. Paulson is stationed at the South Plains Army Flying School, Lubbock, Texas.

1933

Capt. O. B. Doyle is in charge of the Public Roads Administration supervision of the health of hundreds of civilians working on the Alcan International Highway. Capt. Doyle has his headquarters in Whitehorse which is a frontier settlement on the headwaters of the Yukon River. At a recent interview in Whitehorse he said, "This is a very interesting experience. I feel

that the Army and Public Roads Administration are engaged in a great historic undertaking, and I am glad to be of some small part in the program."

Major and Mrs. Ralph W. Knewitz are at present living at El Paso, Texas. Major Knewitz is stationed at Fort Bliss.

1935

Capt. Richard Sutter is stationed at the Medical Replacement Center at Camp Barkley, Abilene, Texas.

Jacob Katzeff is Director of the Lafourche-Assumption Bi-Parish Health Units at Thibodaux, La.

1937

Announcement of the marriage of Walter Edwin Owen, Jr. to Miss Mary Margaret Reardon of Peoria, Ill., on October 17th has been received.

Capt. Gilbert S. Goldman gives his address as O-356497, 51st Medical Battalion, A. P. O. 302, c/o Postmaster, New York City, N. Y. Capt. Goldman is Commanding Officer of his company.

1938

John R. Lionberger, Barnes Hospital, St. Louis, Mo., Class Secretary.

Marion J. Dakin is in air craft medicine associated with Lockheed. Dr. Dakin's address is 8601 Wonderland Ave., Hollywood, Calif.

John R. Lionberger and Virginia Yates of Fulton, Mo., were married Sept. 26.

Lt. James W. Findley is with the 48th Surgical Hospital, A. P. O. 302, New York, N. Y. Dr. Findley was married on June 27 to Mary Virginia Covington of St. Louis, Mo.

1939

Lt. Raymond F. Kuhlmann's address is Station Hospital, A. P. O. 811, c/o Postmaster, New York, N. Y.

Capt. Morton D. Ritter is with the 77th Armored Medical Battalion at Camp Polk, La.

1940

Lt. Robert E. Koch is in the Air Medical Corps at Kelly Field, San Antonio, Texas.

Leo Sachar and Mary Louise Freund were married on September 23. Dr. Sachar is resident in surgery at Jewish Hospital, St. Louis, Mo.

Student News

An enviable record has been established by the student body of the Medical School in joining the reserve medical services of the Army and Navy. Of 343 eligible students, 271 hold commissions in the Medical Administrative Corps, 53 in the Naval Reserve and 14 have applications in process. Only five eligibles have not made application for commissions. Our percentage—98.5—compares favorably with the figure (84%) reported as the average of all medical schools.

The annual initiation and banquet of Alpha Omega Alpha were held at the University Club on December 9. The following senior students were elected: Donald Huelsmann, David Feldman, I. Wallace Leibner, Grace E. Bergner, Jean R. Boyle, Melvin L. Goldman, Bert Guterman, Dorothy M. Case, Robert E. Holt, Jr. and Stanley S. Kahn. Juniors elected to the society were: Yasuyuki Fukishima, Bryce H. Bondurant and John H. Eisenhauer.

Appointments for the Class of March 1943

Anderson, DeWayne, Stanhope, Iowa—St. Louis City Hospital, St. Louis, Mo.
Anthony, Dallas, Springfield, Mo.—Barnes Hospital, St. Louis, Mo.
Arthur, John M., Kansas City, Kan.—St. Louis City Hospital, St. Louis, Mo.
Ashley, Hugh V., Jr., Cape Girardeau, Mo.—Barnes Hospital, St. Louis, Mo.
AufderHeide, G. Russell, St. Louis, Mo.—St. Luke's Hospital, St. Louis, Mo.
Balken, J. Bruce, Salt Lake City, Utah—San Francisco Hospital, San Francisco, Calif.
Barrett, E. LeBerl, Salt Lake City, Utah—Barnes Hospital, St. Louis, Mo.
Beamer, Parker R., Urbana, Ill.—Dept. of Pathology, Washington University School of Medicine, St. Louis, Mo.
Bergner, Grace, St. Louis, Mo.—Barnes Hospital, St. Louis, Mo.
Best, Robert B., Paris, Ill.—Minneapolis General Hospital, Minneapolis, Minn.
Birsner, Frank H., St. Louis, Mo.—Barnes Hospital, St. Louis, Mo.
Bowersox, Warren, St. Louis, Mo.—Missouri Baptist Hospital, St. Louis, Mo.
Boyle, Jean, Seattle, Wash.—St. Louis Children's Hospital, St. Louis, Mo.
Cadman, Ewan, Southport, England—Scholarship student, returning to England.
Callahan, William P., Jr., Wichita, Kan.—Dept. of Pathology, Washington University School of Medicine, St. Louis, Mo.
Case, Dorothy M., St. Louis, Mo.—St. Louis Children's Hospital, St. Louis, Mo.
Caton, William L., Mobile, Ala.—Gorgas Hospital, Panama Canal Zone.
Charnas, Raymond M., Brooklyn, N. Y.—Brooklyn Jewish Hospital, Brooklyn, New York.
Christensen, D. Clair, Brigham, Utah—Colorado General Hospital, Denver, Colo.
Cockrell, John L., Troy, Mo.—San Francisco Hospital, San Francisco, Calif.
Conlin, Gerald J., Blackfoot, Idaho—Barnes Hospital, St. Louis, Mo.
Crites, John L., Charleston, W. Va.—St. Louis City Hospital, St. Louis, Mo.
Daley, Frank R., Hamilton, Mo.—Jackson Memorial Hospital, Miami, Fla.
Davis, DelRoy R., Kingwood, W. Va.—Barnes Hospital, St. Louis, Mo.
Deck, Melvin D., Provo, Utah—Minneapolis General Hospital, Minneapolis, Minn.
Dunn, Edward H., Portsmouth, Va.—St. Louis City Hospital, St. Louis, Mo.
Ellis, Francis J., Springfield, Mo.—St. Louis City Hospital, St. Louis, Mo.
Ewing, Nathaniel D., Vincennes, Ind.—Union Memorial Hospital, Baltimore, Md.
Farrington, Wilma, St. Louis, Mo.—Jersey City Medical Center, Jersey City, N. J.
Feldman, David, St. Louis, Mo.—Jewish Hospital of St. Louis, St. Louis, Mo.
Firminger, Harlan I., St. Louis, Mo.—Dept. of Pathology, Washington University School of Medicine, St. Louis, Mo.
Fisher, Don L., Bountiful, Utah—Barnes Hospital, St. Louis, Mo.
Freeman, David, Kirksville, Mo.—St. Luke's Hospital, St. Louis, Mo.
Fullenwider, Charles G., Muskogee, Okla.—Cleveland City Hospital, Cleveland, Ohio.
Goldman, Melvin L., St. Louis, Mo.—Barnes Hospital, St. Louis, Mo.
Gundle, Sigmund, St. Louis, Mo.—Jewish Hospital of St. Louis, St. Louis, Mo.
Guterman, Bert, Worcester, Mass.—New Haven Hospital, New Haven, Conn.
Haines, Wilbur F., San Francisco, Calif.—San Francisco City and County Hospital, San Francisco, Calif.
Harding, Herbert C., St. Louis, Mo.—Kings County Hospital, Brooklyn, N. Y.
Holt, James H., Wichita, Kan.—Philadelphia General Hospital, Philadelphia, Pa.
Holt, Robert E., Jr., St. Louis, Mo.—St. Louis City Hospital, St. Louis, Mo.
Huelsmann, Donald, Colorado Springs, Colo.—Barnes Hospital, St. Louis, Mo.
Kahn, Stanley S., Gadsden, Ala.—Touro Infirmary, New Orleans, La.
Kanter, Stanley S., Boston, Mass.—Barnes Hospital, St. Louis, Mo.
Klingberg, William G., St. Louis, Mo.—St. Louis Children's Hospital, St. Louis, Mo.
Kneznekoff, Leonard, St. Louis, Mo.—St. Louis City Hospital, St. Louis, Mo.
Knoke, Frederick W., Jr., Clayton, Mo.—Barnes Hospital, St. Louis, Mo.
Koch, Fremont P., San Diego, Calif.—San Diego County Hospital, San Diego, Calif.
Lawrence, Forrest, Springfield, Mo.—St. Louis City Hospital, St. Louis, Mo.

Layton, Ira C., Kansas City, Mo.—Barnes Hospital, St. Louis, Mo.
Leibner, I. Wallace, Brooklyn, N. Y.—Brooklyn Jewish Hospital, Brooklyn, N. Y.
Lemoine, Albert N., Jr., Kansas City, Mo.—Kansas City General Hospital, Kansas City, Mo.
Lippert, Stuart P., Ft. Sam Houston, Texas—St. Luke's Hospital, St. Louis, Mo.
Masunaga, Eichi, Honolulu, Hawaii—St. Louis County Hospital, Clayton, Mo.
Mattick, Irvin H., St. Louis, Mo.—Southern Pacific Hospital, San Francisco, Calif.
Mayfield, J. Logan, Crystal City, Mo.—Barnes Hospital, St. Louis, Mo.
McDowell, Allyn, Springfield, Mo.—Barnes Hospital, St. Louis, Mo.
McKemie, Jack F., Bryan, Texas—Barnes Hospital, St. Louis, Mo.
McQueen, Kent, Preston, Idaho—Barnes Hospital, St. Louis, Mo.
Miller, Elmer B., St. Louis, Mo.—University Hospital, Ann Arbor, Mich.
Miller, James A., Colfax, Wash.—King County Hospital, Seattle, Wash.
Modert, Jean M., Mt. Vernon, Ill.—Kansas City General Hospital, Kansas City, Mo.
Naney, A. Paul, Jr., Flora, Ill.—Presbyterian Hospital, Chicago, Ill.
Odell, Richard T., Jefferson City, Mo.—Barnes Hospital, St. Louis, Mo.
O'Hea, Matthew, Lanarkshire, Scotland—Scholarship student, returning to England.
Pappenfort, Roberts B., Murphysboro, Ill.—St. Luke's Hospital, St. Louis, Mo.
Petry, James L., Columbia, Mo.—Barnes Hospital, St. Louis, Mo.
Quinn, Denise C., Salt Lake City, Utah—St. Louis City Hospital, St. Louis, Mo.
Reed, James, Detroit, Mich.—Barnes Hospital, St. Louis, Mo.
Rose, Leslie W., Jr., Rocky Mount, N. C.—Charlotte Memorial Hospital, Charlotte, N. C.
Rose, Raymond F., Dupo, Ill.—Barnes Hospital, St. Louis, Mo.
Rosenstein, Ernest, San Francisco, Calif.—San Francisco Hospital, San Francisco, Calif.
Rouse, Ernest T., Auburn, Ala.—Mallory Institute of Pathology, Boston City Hospital, Boston, Mass.
Rupp, Edson, Granville, Ohio—Henry Ford Hospital, Detroit, Mich.
Santer, Daniel G., Milwaukee, Wisc.—St. Louis City Hospital, St. Louis, Mo.
Schwartz, Ernest, San Francisco, Calif.—San Francisco City and County Hospital, San Francisco, Calif.
Schweitzer, Fred C., Springfield, Mo.—Dept. of Pathology, Washington University School of Medicine, St. Louis, Mo.
Seidler, William A., Jr., Jamaica, Iowa—St. Louis City Hospital, St. Louis, Mo.
Shaw, Carvel T., Detroit, Mich.—Receiving Hospital of the City of Detroit, Detroit, Mich.
Smith, Foyell P., Lexington, N. C.—St. Louis City Hospital, St. Louis, Mo.
Smith, Ralph J., Birmingham, Ala.—Employee's Hospital, Fairfield, Ala.
Snyder, Edward N., Los Angeles, Calif.—Los Angeles County General Hospital, Los Angeles, Calif.
Stauss, Hans-Karl, Port Gibson, Miss.—Nashville General Hospital, Nashville, Tenn.
Tabankin, Alvin, Newark, N. J.—Brooklyn Jewish Hospital, Brooklyn, N. Y.
Thurlow, Alfred A., Jr., Santa Rosa, Calif.—Alameda County Hospital, Oakland, Calif.
Todd, Gordon M., Pullman, Wash.—Lakeside Hospital, Cleveland, Ohio.
Turbeville, Fred M., Birmingham, Ala.—Barnes Hospital, St. Louis, Mo.
Uhlemeyer, Henry A., Jr., St. Louis, Mo.—St. Louis City Hospital, St. Louis, Mo.
Watkins, Carlton G., Wilmington, N. C.—St. Louis City Hospital, St. Louis, Mo.
Wheeler, Raymond M., Sanford, N. C.—Barnes Hospital, St. Louis, Mo.
Williams, Rymal G., Cedar City, Utah—Denver General Hospital, Denver, Colo.
Wise, Robert J., St. Louis, Mo.—Charity Hospital, New Orleans, La.
Wissmath, F. Sum, Ladue, Mo.—Barnes Hospital, St. Louis, Mo.
Witt, Clyde M., St. Joseph, Mo.—St. Louis City Hospital, St. Louis, Mo.
Wittler, Harry A., Lemay, Mo.—St. Louis City Hospital, St. Louis, Mo.
Wooldridge, Wilfred, Springfield, Mo.—Barnes Hospital, St. Louis, Mo.
Yore, Richard W., Brentwood, Mo.—New Haven Hospital, New Haven, Conn.

In Memoriam

Harry B. Andrew, Mo. '96, New Salem, Ill.; died, April 5, 1941.

John E. Bankhead, Mo. '87, Clarksville, Mo.; deceased.

Lewis E. Barricelli, '92, St. Louis, Mo.; died, June, 1942.

William J. Benner, '03, Anna, Ill.; died, March 3, 1941.

William R. Blankenship, Mo. '83, Seattle, Wash.; aged 81; died, July 24.

J. C. Bushyhead, Mo. '91, Claremore, Okla.; aged 72; died, July 11.

Adolph Wm. Faulbaum, '03, Chicago, Ill.; aged 68; died, July 12.

Charles A. Frank, Mo. '86, Albuquerque, N. M.; aged 84; died, August 16.

Joseph Charles Gallagher, '01, Rossford, Ohio; aged 62; died, May 3.

Hugh C. Gault, St. L. '82, St. Clair, Mo.; aged 83; died, March 7.

Julius H. Gross, '93, Webster Groves, Mo.; aged 70; died, August 17.

David Harris, Mo. '97, Marion, Ill.; aged 73; died, July 27.

Charles Jaeger, Mo. '88, Denver, Colo.; aged 78; died, June 5.

J. W. Kinyoun, Mo. '84, Independence, Mo.; deceased.

J. C. McMillan, Mo. '98, New Berlin, Ill.; aged 68; died, May 15.

Amand Ravold, Mo. '81, St. Louis, Mo.; aged 83; died, October 26.

Albert L. Reuss, '03, Belleville, Ill.; aged 61; died, October 22.

William T. Steger, '91, St. Louis, Mo.; died, September 25, 1922.

Robert Lee Will, Mo. '84, Neosho, Mo.; aged 79; died, April 29.

WASHINGTON UNIVERSITY

George R. Throop, Ph.D., LL.D., Bridge Chancellor

Walter E. McCourt, A.M., Assistant Chancellor

The College of Liberal Arts
William G. Bowling, A.M., Dean

The School of Engineering
Alexander S. Langsdorf, M.M.E., Dean

The School of Architecture
Alexander S. Langsdorf, M.M.E., Dean

The School of Business and Public Administration
William H. Stead, Ph.D., Dean

The Henry Shaw School of Botany
George T. Moore, Ph.D., Director

The School of Graduate Studies
Richard F. Jones, Ph.D., Dean

The School of Law
Warner Fuller, B.S., LL.B., Acting Dean

The School of Medicine
Philip A. Shaffer, Ph.D., Dean

The School of Dentistry
Benno E. Lischer, D.M.D., Dean

The School of Nursing
Louise Knapp, B.S., A.M., Director

The School of Fine Arts
Kenneth E. Hudson, B.F.A., Director

The University College
Willis H. Reals, Ph.D., Acting Dean

The Summer School
Frank L. Wright, A.M., Ed.D., Director

Mary Institute, a preparatory school for girls, located at Ladue and Warson Roads, is also conducted under the charter of the University.

Note: Complete information about any of the schools listed above may be obtained by writing to the Dean or Director concerned.

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